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ABSTRACT

A three-year longitudinal study of bilingual curriculum content (BCC) was initiated in the 1983-84 school year to assess alternative strategies for teaching curriculum content to Limited English Proficient (LEP) students in Dade County (Florida) Public Schools. The BCC strategy (in which content subjects are taught bilingually) was contrasted with a control strategy (in which students are taught in English). LEP kindergartners of Hispanic origin (Cohort I--52 BCC and 58 No-BCC) were followed through second grade. A follow-up group of first graders in 1984 (Cohort II--80 BCC and 58 No-BCC) was also studied. Six BCC and six No-BCC schools participated; six BCC and six No-BCC kindergarten teachers each were in Cohorts I and II. Implementation and survey data from teachers and principals, and classroom observations were analyzed. Achievement test results for both cohorts showed no discrimination pattern of achievement between BCC and No-BCC students. Comparable academic progress in grades 1 and 2 was achieved with or without BCC. It is recommended that the program be substantially modified or replaced to change time allocations and teaching content. The program should also be evaluated in the intermediate grades. Appendices include the implementation instruments and surveys, the pilot project guidelines, and 15 tables of test results. (SLD)

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DADE COUNTY PUBLIC SCHOOLS

EVALUATION
OF THE BILINGUAL CURRICULUM CONTENT (BCC)
PILOT PROJECT: A THREE YEAR STUDY
FINAL REPORT

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EVALUATION OF THE
BILINGUAL CURRICULUM CONTENT (BCC) PILOT PROJECT:
A THREE-YEAR STUDY
FINAL REPORT

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EXECUTIVE SUMMARY

In February, 1983, The Dade County School Board directed that a study be conducted of alternative strategies which could be used to teach curriculum content to Limited English Proficient (LEP) students. After negotiations with the Office for Civil Rights (OCR) in October, 1983, a three-year longitudinal study of Bilingual Curriculum Content (BCC), the present program, was initiated in the second semester of the 1983-84 school year by the Office of Educational Accountability (OEA). Through the "BCC Pilot Project," implemented in twelve elementary schools, two alternative strategies were studied: "BCC" (content subjects taught bilingually), and a control strategy, "No-BCC" (subjects taught in English). Participants were kindergarten LEP students of Hispanic origin, who continued in the project through first and second grades (Cohort I); and a follow-up group entering the program in the fall, 1984 (Cohort II). Preliminary findings for the first and second year were presented in two interim reports (January 1985 and September 1986, respectively). In the final report, findings pertaining to the third year, 1985-86, as well as an analysis of the strategies across the three-year period, are presented.

The Final Evaluation Report addresses three questions:

1. Do first and second grade students who were limited English proficient (ESOL Levels I and II) at the beginning of kindergarten achieve a higher degree of academic progress in content subjects with or without BCC?

2. What were the effects of program implementation characteristics in each strategy on student achievement?

3. Was the pilot project implemented appropriately with respect to the guidelines and other relevant programmatic factors?

Conclusions

1. An analysis of achievement test results of Cohort I (in second grade) and Cohort II (in first grade), for the third project year 1985-86, revealed no discriminating pattern of achievement between students in the BCC or No-BCC strategy. Students who were limited English proficient in kindergarten seem to achieve comparable degrees of academic progress in first and second grade, with or without BCC.

2. A repeated measures analysis to examine program effects over an extended time period confirmed earlier findings: no differences in achievement were found between BCC and No-BCC groups.

3. Achievement displayed by BCC students did not appear to be a function of time spent in the BCC program, since students with one year in BCC achieved higher scores than students with two years. One explanation for this finding may be that "one-year BCC students" are also high achievers; they may also be the same students who exit ESOL after only one year. Another explanation may be that the methodology used in the second year of BCC does not fully address the needs of students who require more than one year of such instruction.

4. There were no differences between BCC and No-BCC schools in achievement by the number of years students were in the ESOL program. Students in both strategies who were in ESOL for one year consistently scored higher than students with two (or more) years in ESOL. This finding indicates that students who acquire English skills rapidly also tend to have higher performance in content areas. It also seems to confirm a previous finding (Second Interim Report) that English language ability strongly influences achievement. Time in ESOL (as a measure of English language ability) may thus be an indicator of achievement on content tests, and warrants further study.

5. The longitudinal analysis revealed that in general, the project was implemented according to the guidelines. All aspects were comparable, with the exception of language usage, as required. Teachers in both strategies felt that parents and school staff supported the program, and that their students had a positive attitude toward, and improved performance in, content subjects.

6. Although the use of the home language in content areas was supposed to be the primary factor differentiating the two strategies, it was found that as designed, use of the home language is not sufficiently adequate to produce differences in achievement.

7. The BCC strategy, as implemented in this pilot project, in twelve elementary schools, is clearly not effective in its present form, as compared to the control strategy. If modifications are not made, it is likely that the program will continue to demonstrate no measurable effects in terms of achievement.

Recommendations

1. The BCC program should be substantially modified, or replaced with a newly developed model. Recommendations toward modifying BCC, or developing a new model, are: a) bilingual materials should be used; b) more time should be allocated for teaching students content in the home language, and c) different language patterns for teaching content in the home language should be explored.

2. Continue orientation and inservice on BCC. Expand inservice offerings in methods for teaching LEP students, materials usage, assessment techniques and other areas requested by teachers.

3. Evaluate the BCC program in intermediate grades in elementary schools and in secondary schools.

EVALUATION OF THE BILINGUAL CURRICULUM CONTENT (BCC) PILOT PROJECT: A THREE-YEAR STUDY
FINAL REPORT

INTRODUCTION

Background of the Project

In February, 1983, the Dade County School Board directed the Office of Educational Accountability (OEA) to conduct a study of alternative strategies used to teach curriculum content to limited English proficient (LEP) students. The study was to assess the impact of Bilingual Curriculum Content (BCC)* instruction on the academic learning of LEP students, when compared with content instruction solely in English. A three-year longitudinal study was initiated at the beginning of the second semester of the 1983-84 school year by OEA.

Bilingual Curriculum Content (BCC) is an instructional component of the Transitional Bilingual Basic Skills Program offered to LEP students in the Dade County Public Schools. During the three years of the pilot project, LEP student enrollment was: 24,304, 1983-84; 22,251, 1984-85; and 25,716, 1985-86. LEP students are provided specialized instruction to assist them while they adjust to a new educational and cultural environment. This instruction includes English for Speakers of Other Languages (ESOL), an intensive English program; and Basic Skills in the Home Language, consisting of 1) Home Language Arts and 2) curriculum content subjects taught bilingually (BCC).

The BCC program is delivered at the elementary level by 1) teachers who are specifically allocated under Program 6630 (within available resources) to teach Basic Skills in the Home Language, of which BCC is a part; and/or 2) regular classroom teachers assigned to teach self-contained classes, who are linguistically qualified and whose responsibilities include BCC instruction for students in their classes (Dade County Public Schools, 1986).

Since the early 1960's, the policy of Dade County Schools has been to recognize and use the student's home language, and aspects of the home culture, as instructional tools during the student's transition into an all English curriculum. The rationale for this practice stemmed from the belief that bilingual education, rather than an all-English approach, is more advantageous to LEP children's learning, development and self-esteem (Bell, 1967; Blanco, 1977; Cummins, 1982).

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*Presently "CCHL," or Curriculum Content in the Home Language.

In 1976, based on agreements with the United States Office for Civil Rights (OCR), the use of the home language in content subjects (BCC) for LEP students was established as an instructional strategy in elementary schools through the Transitional Bilingual Basic Skills Program. The objective of BCC is to ensure that the students develop in the home language, as well as in English, basic concepts and skills which form part of the English curriculum in the (content) areas of social studies, science and mathematics (Dade County Public Schools, 1978).

The ultimate goal of this instruction is to enable LEP students to maintain their academic standing at a level equivalent to their English speaking peers, while in the process of learning English.

In recent years, interest has developed among educators in exploring the effect on academic achievement of different instructional approaches to the teaching of content subjects to LEP children, using English as the only language of instruction. One of these approaches is "Structured Immersion," whereby almost all instruction is given in English, using a curriculum which is specially structured for LEP students (Birman et al., 1981). Teachers in this approach are usually bilingual, and home language arts may be included in the students' total program (Met, 1984).

To evaluate LEP student achievement in content areas with or without bilingual instruction, the BCC Pilot Project was implemented in twelve elementary kindergarten classes in February, 1984. The project consists of using two alternative strategies in teaching content subjects to LEP students: "BCC" and "No-BCC". In the BCC strategy subjects are taught bilingually. In No-BCC, the control strategy, subjects are taught only in English. Implementation of the two strategies is the responsibility of the Division of Elementary and Secondary Instruction (DESI). OEA has the responsibility of evaluating the project, and developed the evaluation plan in conjunction with DESI. Approval of the project and the evaluation was obtained from the U.S. OCR.

Under the OCR-approved plan, follow-up of pilot project students would continue for two years. Additionally, the pilot project was repeated with a new group of kindergarten students, beginning in the fall of 1984-85. Thus, two groups of students have participated simultaneously in the longitudinal study. These groups are: the kindergarten students of the four-month "pilot" phase of 1983-84, "Cohort I," and the "new" kindergarten students entering in 1984-85, "Cohort II."

In May, 1986, the 1985-86 Multilingual/Foreign Language Task Force (DCPS/UTD) requested OEA to track the achievement of pilot project students for an additional year. The Task Force recommended that this follow-up be limited to an examination of recommended that this follow-up be limited to an examination of the students' State Student Assessment Test (SSAT) scores, and not a continuation of the pilot project. It is therefore anticipated that a supplementary report to the present study will be produced, covering the performance of project students in the third grade on the SSAT.

Participation of students at different times and grades is shown on the figure below.

Project Year	Cohort I	Cohort II
Feb. 1984- June 1984	Kindergarten	------
1984-85	First Grade (First Follow-Up)	Kindergarten
1985-86	Second Grade (Second Follow-Up)	First Grade (First Follow-Up)
1986-87	Third Grade (Third "Follow-Up" Fall SSAT, Spring Stanford will also be examined)	

Overview of the BCC and No-BCC Instructional Strategies

Guidelines for implementing the pilot project are presented in detail in Appendix B. Following is a summary of the two strategies.

The BCC strategy in kindergarten consisted of teaching content subjects in and through the primary language (Spanish) to students classified as ESOL Levels I and II (little to no English ability). The content subjects are mathematics, science, and social studies; health/safety material is presented within the science and social studies areas. Approximately one hour daily was the recommended time allotment for content subjects; Spanish was to be used for half of this time. In the control strategy (No-BCC), LEP students also received approximately one hour of instruction in content subjects, but only in English. Students in both strategies were also taught Language Arts/ESOL, Spanish-S (home language arts), as well as the remaining conventional areas of the curriculum (e.g., art, music, etc.).

The instructional program was basically the same for first and second grade pilot project students, with the exception of less instructional time provided in the child's primary language as he/she became more English proficient. Also, project students in Chapter 1 classes were not taught science and social studies per se. Rather, topics from these subjects were utilized in their language arts class. Project students in the first and second grade continued in the BCC or No-BCC track, regardless of English proficiency.

Summary of First Year Evaluation

The evaluation of the first year of the BCC Pilot Project (1983-84, or the "four-month" phase) sought answers to two questions. These were: (1) Do limited English proficient kindergarten students achieve a higher degree of academic progress in the content areas with or without BCC?, and (2) Was the pilot project implemented appropriately with respect to the guidelines and other relevant programmatic factors? Briefly, the findings were as follows:

> The major conclusion of the first year evaluation was that no clear pattern of results had emerged to indicate that either of the two strategies, BCC or No-BCC, consistently lead to higher student performance in the content areas. Evaluation of how the project was carried out in its first year revealed that overall, project guidelines were followed and that implementation was comparable in both strategies. Variations in the guidelines which could affect student achievement were identified by OEA, and subsequently corrected by DESI. For further details on the 1983-84 evaluation, the reader is referred to the First Interim Report (OEA, January, 1985).

Summary of Second Year Evaluation

In the evaluation of the second year of the BCC Pilot Project, three questions were addressed. These were: (1) Do limited English proficient students in kindergarten (1984-85 full-year implementation group) and in first grade (follow-up of the 1983-84 four-month "pilot phase" group) achieve a higher degree of academic progress in the content areas with or without BCC?, (2) Was the pilot project implemented appropriately with respect to the guidelines and other relevant programmatic factors?, and (3) What were the effects of program implementation characteristics in each strategy on student achievement? The findings were presented separately for students in kindergarten (Cohort II) and first grade (Cohort I), and were as follows:

Cohort II, Kindergarten Students

> At the end of a full academic year in kindergarten, no clear pattern of achievement emerged for Cohort II that consistently lead to higher content achievement in either the BCC or No-BCC strategy. Students in the BCC strategy scored significantly higher on one of the mathematics measures, the locally-developed DCCAT in mathematics.

However, achievement in both strategies was consistently comparable on eleven other measures of mathematics, science and social studies. These results parallel those obtained for Cohort I at the end of four months in the project, in the preceding year.

Of several factors examined, student ability in English was found to have the highest influence on achievement on the mathematics test, Other variables that appeared to be contributing to achievement were Spanish language ability, years of teaching experience with LEP students, total years of teaching experience, and the BCC treatment. It was expected that these relationships, and perhaps other patterns of achievement, would be more clearly established in the follow-up of Cohort II in the first grade.

Cohort I, First Grade Students

At the end of a full academic year in the first grade, and four months in kindergarten, no clear pattern of achievement emerged for Cohort I that consistently lead to higher achievement in content subjects, in either the BCC or No-BCC strategy. Student achievement was comparable in both strategies. However, patterns of achievement may be more clearly discerned in the follow-up study of these students in the second grade.

In general, the project was implemented according to the guidelines, in kindergarten and first grade classes; variations that were encountered were corrected. It was recommended that orientation and direction for implementing the project, which was periodically given to project principals and teachers, be intensified. For further details on the 1984-85 evaluation, the reader is referred to the Second Interim Report (OEA, 1986).

The Third Year (Final Evaluation)

The Final Evaluation Report of the longitudinal study covers student achievement and implementation activities relative to the third year of the project, 1985-86. Achievement and implementation are also analyzed for the period of February 1984 through June 1986. The following questions are addressed:

1. Do first and second grade students who were limited English proficient (ESOL Levels I and II) at the beginning of kindergarten achieve a higher degree of academic progress in content subjects with or without BCC?

2. What were the effects of program implementation characteristics in each strategy on student achievement?

3. Was the pilot project implemented appropriately with respect to the guidelines and other relevant programmatic factors?

Organization of the Final Report

The evaluation plan precedes the Results section. In the Results part of the report, first, achievement findings are presented for 1985-86, for Cohort I students (in second grade), and Cohort II students (in first grade). Second, program effects (BCC, No-BCC) in terms of differences in student achievement, are presented. These results are based on data obtained for "long-term" project students, that is, those that remained in the project for three or two consecutive years (Cohorts I and II, respectively). Third, the differential effects of program components on student achievement are examined. Fourth, project implementation findings are discussed for 1985-86 (both cohorts).

Conclusions and recommendations are presented at the end of the report.

EVALUATION PLAN

The evaluation plan describes the sample (schools, students and teachers), instruments, testers, data collection and data analysis procedures.

Sample

Details on the sample, updated through 1985-86, are provided below.

Schools

The same twelve elementary schools participated in the project during the three years of the study. Six had been randomly designated as "BCC Schools," and six as "No-BCC Schools." (For further details on the selection of schools, see the First Interim Report, OEA, 1985).

Students, Cohort I

At the end of 1985-86, there were 110 second graders in the project: 52 in the BCC group, and 58 in the No-BCC group. When this cohort was in kindergarten, at the beginning of the project, there were 287 students (144 BCC, 143 No-BCC). In the first grade, there were 184 students: 93 BCC, and 91 No-BCC. During the course of the project, student attrition was as follows: 119 students withdrew (moved to another school), 27 were retained, 16 were referred for exceptional student education, and 11 left for other reasons (e.g., they were ESOL Levels III-IV in kindergarten, and did not qualify for participation in the project). Overall, student attrition for the three years was approximately 60%. The number of withdrawals was comparable in both strategies. In general, the number of retainees was greater in BCC, while there were slightly more referrals in the No-BCC group. These data were compared to district data on referrals and retainees for the respective year and grade. At no time does the percent of referrals or retainees in BCC and No-BCC schools exceed the percent reported for the district. Data on LEP students who are referred or retained may warrant further study.

The 110 second graders were in 49 different classes. While all had been classified as limited English proficient in kindergarten (ESOL Levels I-II), by the second grade the majority had either achieved intermediate levels of English ability (ESOL Levels III-IV), or had been exited from ESOL (independent in English status). If the students were in the BCC strategy, program guidelines stipulated that they continue to receive BCC instruction, as determined by their ESOL level and teacher discretion. In the second grade, only one BCC student continued to receive at least one content subject bilingually. This student was classified as an ESOL Level III. If they were in the No-BCC strategy, the students were to continue learning content subjects in English only. Several students in both strategies also participated in Chapter 1 or Compensatory programs.

Students, Cohort II

There were 138 first graders: 80 in BCC, and 58 in No-BCC. During the previous year in kindergarten, Cohort II consisted of 112 BCC and 109 No-BCC students. Attrition was as follows: 112 students withdrew, 19 were retained, and 7 were referred for exceptional student education. The number of withdrawals was comparable in both strategies. The number of referrals was higher for No-BCC, the number of retainees was slightly higher for BCC (see discussion for Cohort I on referrals and retainees). Overall, student attrition for the two years was 62%.

The first graders were in 52 classes. As the same selection criteria applied to both cohorts, Cohort II students were all classified as ESOL Levels I-II in kindergarten. By the first grade, many had achieved intermediate status in English ability (ESOL Levels III-IV), some had been exited from ESOL. Students in the BCC strategy continued to participate in BCC, as needed, while those in the No-BCC strategy continued to learn their content subjects in English. Of the first grade BCC students, 23, or approximately 30% continued to receive at least one content subject bilingually. Several BCC and No-BCC students also participated in Chapter 1 or Compensatory Education programs.

Teachers

When the project was initiated, kindergarten teachers were selected on the basis of their training and years of experience, so that BCC and No-BCC teachers would be comparably qualified. A balance between bilingual teachers in BCC schools and monolingual teachers in No-BCC schools was sought, but adjustments had to be made to accomodate the schools' staff resources.

The kindergarten teachers of Cohort I were comprised of one monolingual and five bilingual classroom teachers in BCC schools, and four monolingual and two bilingual classroom teachers in No-BCC schools. For Cohort II at the kindergarten level, the only change in teacher personnel was in one of the BCC schools, where the bilingual classroom teacher was replaced with another (bilingual) teacher. Also, in one of the BCC schools, a special "BCC Supplementary Teacher", who became ill, was replaced with another "BCC Supplementary Teacher".

Classroom aides, available in the schools, were utilized by teachers in both strategies. It is noted that teacher aide positions were not a part of the design of the staffing component of the project. Thus, the use of classroom aides was not advocated in the program guidelines and positions were not funded by the BCC program.

As project students moved up to first grade, they were no longer in self-contained classes. Since they were placed in heterogeneous classes in first grade, and subsequently in second grade as well, their teachers were more diverse. Nevertheless, an effort was made to place project students with teachers in each strategy who were fairly comparable in terms of years of teaching experience, training, etc., as field conditions permitted.

Instruments

For this evaluation, achievement tests were applied in English and Spanish to all first and second graders included in the sample of the BCC and No-BCC schools. Detailed implementation data were collected from all teachers. In addition, survey data were collected from teachers and principals about overall program implementation. Classroom observations were carried out in a sample of first and second grade classes in each strategy. Below is a description of the different instruments used in the two grades.

Achievement Tests

Second graders were administered the Comprehensive Test of Basic Skills (CTBS) in mathematics, in both English and Spanish. To assess achievement in science and social studies, the CTBS was administered in English (the only language in which these subtests are published). Science and social studies subtests of a second standardized test, La Prueba Riverside, were administered in Spanish (the only language in which these subtests are published). Additionally, the locally-developed second grade DCCAT tests, English and Spanish versions, were administered. Health/safety items were included in science and social studies tests.

First graders were given a standardized content achievement test, the Test of Basic Experiences (TOBE), and the locally developed DCCATs, English and Spanish versions. These tests include items in health/safety.

One of the factors to be examined in interpreting the findings on content achievement will be the student's language ability. Thus, the CTBS Reading Vocabulary Subtest was administered to second graders, and the language arts test of the TOBE battery to the first graders. Both English and Spanish versions of the tests were applied.

Implementation Instruments and Surveys

Implementation Check Forms

These forms were used to verify that the pilot project was being implemented as specified in the guidelines (e.g., use of the home language in BCC for students still classified as ESOL Levels I or II, and for those in Levels III and IV, as necessary.) The data were collected by OEA and program support staff through interviews with all project teachers in first and second grade.

Classroom Observation Form

This form was used to obtain a data sample of time on task and language used during instruction of a content lesson. The evaluator records information on any small group activity occurring during the observation, on teacher-pupil interaction during large group instruction, and the language used. Interaction is recorded on a section of the form which lists ten teacher and eight student behaviors. While the list is not all-inclusive, the behaviors are among those typically found in a primary classroom. The OEA trained observer records the interaction and language used at three-minute intervals. For the 1985-86 evaluation, classroom observations were conducted only in the first grade class in each school with the highest number of project students. A mathematics content class was observed in the BCC and No-BCC strategies.

Teacher Questionnaires

Questionnaires were sent to all first and second grade project teachers, in order to obtain data about attitudes toward and implementation of the program. Issues addressed included: teaching strategies and resources used, the language(s) they used while teaching content subjects, and general questions on program delivery. They were also asked for their opinions on appropriate methodology for teaching LEP students, and finally, questions on their professional training and experience (e.g., experience teaching LEP students).

Administrator Questionnaire

A questionnaire concerning program implementation and opinions about teaching methodology for LEP students, was sent to principals of the project schools. This questionnaire was similar to the teacher survey.

End-of-Year Student Surveys

These surveys were sent to all first and second grade project teachers, to obtain information on the academic status of project students. The teacher was asked for current information on the student's ESOL level, grades in academic subjects, overall class participation, number of absences during the year, and whether the student had been referred for an ESE program. Information on the number of other LEP students in the class, and their ESOL level, was also requested.

Testers

Two OEA staff assigned to bilingual program evaluations were responsible for administering both fall and spring tests, assisted by contracted testers. In addition, a teacher assigned half time to the Bilingual/Foreign Language Education Department for the BCC and other projects, participated in data collection. All testers and contracted personnel were bilingual (English and Spanish).

Three of the contracted personnel held either an undergraduate or master's degree in education, a fourth held a degree in a related field. One of the testers was employed on a regular basis as a substitute teacher in DCPS, one taught ESOL in adult education, and one was subsequently employed the next year as a new full-time elementary teacher in DCPS.

Data Collection

Achievement Testing

Testing of children took place twice: in the fall, during September/October, 1985 (pretest phase); and in the spring, during May/June, 1986 (posttest phase).

All of the schools were highly cooperative in arranging the testing sites, storage area for tests, and test schedules. In some schools, testing conditions were poor, due to lack of space. For example, in several schools, tests had to be administered in the cafeteria. Overall, testing conditions were comparable in both strategies.

For each group of program children, four testing sessions were scheduled. At each session for first graders, two of the TOBE subtests or the three DCCATs were administered. At each testing session for the second graders, two CTBS, or two Riverside subtests, or three DCCATs were administered. Tests were randomly assigned to the four scheduled testing sessions. Each testing session was conducted in only one language. At least two testing sessions were interspersed between application of the same content area test in the other language. Testing in each language was conducted by a native speaker.

Program Implementation Audits, Observations, Surveys

During 1985-86, schools were visited and/or contacted by OEA staff to determine the status of project operations, and to identify any variations to, or problems in implementing the guidelines. A Bilingual/Foreign Language Education staff member provided assistance in collecting the data.

In September, student rosters were updated, and the names of the first and second grade teachers were collected. Implementation checks (interviews) were conducted with all first and second grade teachers during February-March, 1986. Classroom observations were conducted in selected first and second grade classes in each school, during May; however, some had to be scheduled in the first week of June.

Finally, principal and teacher surveys were mailed out in late May to early June, and were returned before the end of the school year.

Data Analysis

To address the first question, "What is the effect of BCC/No-BCC on content achievement?", data analysis focused on the longitudinal performance of both cohorts. Achievement was also examined for the second graders and the first graders in 1985-86. An analysis of variance (ANOVA, repeated measures design) was the major statistical procedure to measure pilot student achievement in content subjects over time. Analysis of covariance (ANCOVA) was performed to analyze achievement of both groups, BCC and No-BCC during 1985-86. Separate analyses of students by participation in special programs were not conducted. Specific procedures included the following:

converting raw scores to standard scores, so that achievement could be examined across the different grades and tests;

checking the data of those students with only partial scores (e.g., pretests only), to see if they differed in some systematic respect from the data of students who took the pre- and all of the posttests (a chi square analysis will be conducted of a random sample of tests for all students that took tests, but then dropped out of the project, and a subset of project students, those that took all of the tests);

plotting group means, using the standardized scores of students with matched longitudinal data (students that had taken the tests at all of the testing points); inspecting the graphs for differences in achievement between groups, and any irregularities; and performing the ANCOVAS and then, as warranted by the data, the repeated measures ANOVA.

To address the question on project implementation, data were analyzed descriptively (means, percentages, etc.).

To address the question on differential effects of program characteristics on student achievement, a repeated measures ANOVA was used.

RESULTS

This section of the report presents the findings for Cohort I and Cohort II pertaining to 1) the effect of the two instructional strategies on student achievement in the content areas of mathematics, science and social studies and 2) analysis of the effects of selected program characteristics on student achievement. The evaluation of the pilot project implementation will follow.

The first question addressed was: "Do limited English proficient students in the second grade (Cohort I) and in the first grade (Cohort II) achieve a higher degree of academic progress in the content areas with or without BCC?

The results for 1985-86 for both cohorts follow.

Achievement in 1985-1986

Data Analysis Steps

At the end of 1985-86, Cohort I had six data points (two data points (fall and spring) each in 83-84, 84-85 and 85-86) and Cohort II had four data points (two data points each in 84-85 and 85-86). The scores of a subsample of students that was present at each test point (those who had all data points on any one test) in each cohort, were selected in order to analyze the impact of treatment in BCC and No-BCC groups.

Prior to this analysis, it was necessary to determine whether results based on these groups (the subsample in each cohort with all data points) would be representative of all students who had been present at any one testing point, but not necessarily for all. The purpose of this task was to establish equivalency of scores in each cohort between its subsample's scores and the scores of all students who had taken at least one fall or spring test.

This procedure is also a direct test of the impact of student attrition on test scores. Since scores from students who were withdrawn, referred or retained would be included in the complete sample on some tests, but not in the subsample, differences between the two groups would show if attrition was not random (e.g., higher or lower achievers had left the program).

Score frequencies for each cohort (on randomly selected fall and spring tests in either language) for the complete sample were used to develop a distribution of scores for this group. Score frequencies from the subsample (on the same tests) and its distribution were then compared to those of the complete sample.

A chi-square was used to compare statistically the two distributions of scores. This procedure allows for a test of equivalency in frequencies of scores between two groups.

The results of 20 (28% of tests administered) chi-squares comparing Cohort I's complete and subsample and Cohort II's complete and subsample distributions of scores revealed no significant differences between the two distributions. This indicates that students with all data points are representative of the larger sample, and that findings of the subsample can be generalized to the larger sample. Furthermore, since there were no differences between the two distributions, one can say that students who left the BCC pilot project had similar academic achievement to those who remained in the program. Therefore, the analysis of 85-86 results using scores of students with all data points is valid and statistically justifiable.

Analysis of covariance was then used to test the significance of the difference between the spring test scores of the BCC and No-BCC groups on achievement in the content areas and language arts. Fall test scores for each group were used as covariates. This analytical technique produces "adjusted" mean spring scores which take into account initial differences between groups. In effect, this allows a direct test of the significance of the difference between spring test mean scores of the treatment and control groups. These adjusted means are interpreted as spring test means with the effects of fall test differences between the groups removed.

At this stage of the evaluation, a separate one-way analysis of covariance (ANCOVA) was carried out for each test in order to explore possible differential achievement outcomes of each strategy. The results follow.

Cohort I, Second Grade

No significant differences were found in twelve comparisons of content achievement. BCC and No-BCC students' scores on achievement tests were comparable in both languages. There were also no significant differences on two measures of language arts achievement (English and Spanish); students achieved similar scores on both language tests. These results appear in Tables 1, 3 and 4.

Chi-squares were used to test for differences in patterns of correct responses on health/safety between BCC and No-BCC schools. As in previous years, specific measures of health/safety were not applied. Nevertheless, items which assessed achievement in health/safety were identified from CTBS and DCCAT tests.

For Cohort I there were nine items from social studies and science tests in the English and Spanish tests which assessed health/safety knowledge. Applying chi-squares revealed no significant differences between BCC and No-BCC groups on either English or Spanish items (English, chi-square = 3.67, d.f. = 8, $p = .88$; Spanish, chi-square = 1.14, d.f. = 8, $p = 1.0$). BCC and No-BCC students therefore had comparable achievement on health/safety items in either language.

A preliminary analysis comparing BCC students and No-BCC students' average scores with national norms on CTBS tests given in spring '86 in English and Spanish revealed that both groups of students appeared to be generally functioning at instructional grade level (percentile ranks of 41 and above). BCC students scored above the 41st percentile on three tests and slightly below the 41st percentile on one test. No-BCC students achieved percentile ranks above 41 on two tests and slightly below on two other tests. Generally, BCC and No-BCC students seem to be performing at instructional grade level which indicates good performance. Their achievement on Spanish tests is lower (percentile ranks range from 30-40 for both BCC and No-BCC groups). Overall, students achieve higher percentile ranks on English than Spanish tests.

Cohort II, First Grade

There appeared to be differences in TOBE social studies test in Spanish (favoring the BCC group) and TOBE language test in English (favoring the No-BCC group). These differences were not significant when results were controlled statistically (this is necessary since significant differences could be found by chance alone on any one test when ANCOVAs are carried out on each test and there are multiple tests). These results can be seen in Tables 2, 5 and 6. These findings indicate that there is no clear pattern of better achievement in either strategy on content and language arts test scores in either language.

For Cohort II there were 16 items from social studies and science tests in the English and Spanish tests which evaluated achievement in health/safety. Chi-squares between BCC and No-BCC groups found no significant differences between groups in English or Spanish (English, chi-square = 2.65, d.f. = 15, $p = 1.0$; Spanish, chi-square = 4.78, d.f. = 15, $p = .99$). Students in BCC and No-BCC groups had equivalent scores in health/safety.

The comparison between BCC and No-BCC students' average test scores and national norms for TOBE tests administered in spring

'86 in English showed that students scored mostly at average range (average percentile ranks range from 23-77). No norms in Spanish were available for TOBE tests. BCC students scored at instructional grade level on one test, at average range on another and slightly below average range on two tests. No-BCC students scored at average range on all four tests.

In summary, there was no difference on content area or language arts achievement scores of BCC and No-BCC students in Cohort I or Cohort II (after correcting for multiple tests). BCC and No-BCC students achieved comparable scores on all tests administered in either language (including items assessing health/safety). Comparisons between standardized test scores in English and national norms indicated that Cohort I students appeared to be scoring at instructional grade level on most tests. This indicates a good performance for these students (both BCC and No-BCC). Their Spanish scores were somewhat lower. Cohort II students' scores were mostly in the average range, indicating less achievement for these students at this time, in comparison to the norm group.

Longitudinal Program Effects of BCC/No-BCC in Terms of Differences in Student Achievement

In order to compare each cohort's scores for the time the project was implemented, raw scores on all tests were transformed into standardized scores (z scores which have a mean of 0 and a standard deviation of 1). A z score is a score transformation which uses raw scores and a common mean and standard deviation on various tests so that comparisons of different examinations across different years can be made.

Z scores were used to draw graphs for each cohort on every test in either language. This was done as a preliminary inspection of group differences (BCC, No-BCC) in order to study how standardized mean scores varied across the time span of project implementation (two and a half years for Cohort I, two years for Cohort II). After examining fourteen graphs using z scores of all tests taken for Cohort I (English and Spanish), it was concluded that there was no pattern of results which would indicate that either strategy was superior in producing greater student achievement. The same results were evident in the fourteen graphs examined for Cohort II.

Another routine analysis carried out included ANCOVAS for each cohort on each test and every year that the project was implemented. Results of these ANCOVAS (1985-86 ANCOVAS have already been discussed) for each cohort support previous conclusions that there are no consistent results indicating that either strategy is superior in generating greater academic achievement. These results were also similar to those already presented in previous evaluations. Nevertheless, the ANCOVAS were useful in suggesting tests for further study, as they revealed the possibility of finding significant longitudinal results on some of these tests.

In order to assess the impact of treatment over the course of the project (two and a half years for Cohort I and two years for Cohort II), a repeated measures ANOVA was used. This statistical procedure is more sensitive to significant treatment effects, taking into account the span of time over which data were collected for the same students.

A full repeated measures model evaluates each main effect including its various levels (i.e., treatment - BCC, No-BCC, testing times - fall, spring, etc.) and each interaction effect (combinations of main effects). A limited model evaluates each main effect but only lower level interactions. That is, combinations of two main effects are evaluated; but if there are three main effects, the combination of the first two factors with the third combined are not included. Although this information is useful, significant higher level interaction effects are usually unexplainable as they imply different treatment effects for different factor combinations. Since the primary purpose of this evaluation is to determine whether there is an effect for treatment (BCC strategy), the analysis of main effects and lower level interactions was determined to be sufficient to answer this question.

The repeated measures ANOVA model used for this part of the evaluation included three factors, the last two of which were repeated measures. The factors evaluated were group (BCC, No-BCC), year (year one, 83-84; year two, 84-85; and year three, 85-86 for Cohort I - Cohort II only had year one, 84-85; and year two, 85-85) and tests (fall and spring each year for a total of six for Cohort I and four for Cohort II).

Cohort II, September 1984-June 1986

The tests selected for these analyses were chosen on the basis of ANCOVAs for both cohorts carried out for each year that the pilot project was in operation. Cohort II's test scores on selected tests (those that appeared to be significant prior to statistical correction, and a DCCAT test in 1985-86; see Tables 2, 5 and 6) were chosen for the longitudinal analyses. These tests suggested a greater likelihood of revealing any significant differences which may have emerged across the two years of project implementation for Cohort II. Three tests were thus chosen: TOBE language in English, TOBE social studies in Spanish and DCCAT science test in Spanish.

On the TOBE language test in English, TOBE social studies test in Spanish and DDCAT science test in Spanish there were no significant group differences on achievement when scores were analyzed across four testing points. It appears that the BCC and

No-BCC groups' scores are also equivalent when data are analyzed longitudinally. Further analyses on additional tests did not seem to be warranted by the data.

In summary, the results of three repeated measures ANOVA (on selected tests of Cohort II) with a limited model revealed that there were no significant differences in achievement between BCC and No-BCC groups. These findings based on longitudinal analyses further substantiate previous conclusions that no clear pattern of results had emerged which indicate that either strategy (BCC, No-BCC) lead to higher level of student achievement.

Effects of Program Characteristics in Each Strategy on Student Achievement

To address Question Two, "What was the effect on student achievement of program implementation characteristics?", two factors were examined. These were: the student's English proficiency (expressed by the number of years in the ESOL program), and BCC instruction (expressed by the number of years in BCC).

Differential Effects of the Two Programs by Student English Proficiency

Based on the results of the 1984-85 evaluation, it was hypothesized that English language proficiency would be an important factor in explaining content achievement. For both cohorts, scores on the standardized English language test explained a large percentage of the variation found in content achievement tests where significant differences between BCC and No-BCC groups had been found.

In order to use a measure of English proficiency which is independent of the tests administered, the number of years of ESOL instruction that a student could have had at the end of 1985-86 was chosen as one of the factors. Scores from both BCC and No-BCC groups (combined) were used for the analysis. Tests for 1985-86 were utilized because they allow for a greater range of values on time for instruction in ESOL (three and two years for Cohorts I and II, respectively).

The statistical procedure employed to analyze these data was also a repeated measures ANOVA with three factors, of which the last two were repeated. The factors were group (BCC, No-BCC), time in ESOL instruction (one, two, or three years for Cohort I and one or two years for Cohort II), and tests (fall and spring; two for each cohort).

Scores from students who had fall and spring tests for 1985-86 on a standardized test in English (CTBS for Cohort I and TOBE for Cohort II) were selected for this analysis. Given time and staff limitations only a sample of tests was examined for each cohort.

The results of repeated measures ANOVAs carried out for each cohort are presented below.

Cohort I, February 1984-June 1986

Students in Cohort I at the end of 1985-86 could have had one to three years of ESOL instruction. Achievement scores for these students on CTBS tests in English for mathematics, science and social studies revealed a strong and significant pattern of higher content achievement for students with less years of ESOL instruction. On all three content areas, students who had had one year of ESOL instruction scored higher than students with two years, and those in turn scored higher than students with three years of ESOL instruction. These differences appear in Table 7. No significant differences were found between BCC and No-BCC schools in achievement by the number of years students were in the ESOL program.

The results show that there appears to be a range of student ability in ESOL which is related to achievement on content area tests. Students who exit ESOL after their first year in the program also appear to be the higher achievers, as reflected on test scores two years after exiting. These students had apparently mastered both English and content area instruction quickly, according to their test scores. Those students who exited later (two and three years in ESOL) achieved lower on content area tests. Thus, the rate in which students exit the ESOL program may be an indicator of their achievement on content area tests. These findings warrant further investigation.

Cohort II, September 1984-June 1986

Students in Cohort II in both strategies could have had one or two years of ESOL instruction. Scores for these students on TOBE tests in English (mathematics, science and social studies) also revealed a significant and strong pattern of results (see Table 7). Those students with one year of ESOL instruction scored significantly higher than students with two years of ESOL instruction on all three content measures. Findings again indicate that students who acquire English proficiency quickly also achieve higher scores on content area tests, regardless of strategy. Again, no differences were found between BCC and No-BCC schools in achievement.

In summary, the analysis of the impact of time in ESOL instruction on content achievement for both cohorts revealed that for the first factor, group, there was no significant difference between BCC and No-BCC groups on achievement. For the second factor, time in ESOL, a strong and significant effect on all standardized tests in English was found. Students who were in ESOL for one year always achieved higher scores than students with more years in ESOL.

This indicates that regardless of strategy, BCC or No-BCC, students who acquire English skills quickly also perform better on content area tests, as reflected on their test scores after they have exited the ESOL program. Those that acquire sufficient English skills to exit ESOL after two years had lower achievement on the tests, and may be the average learners.

Effects of Length of Time in BCC Instruction on Achievement of Students in the BCC Strategy

Time in BCC instruction (BCC group only) was examined to assess achievement of students as a function of years of BCC instruction in either content area (mathematics and/or combined instruction). Students in Cohort I could have had one to three years of BCC instruction (but only one student had three years of BCC instruction in mathematics). Cohort II students by the end of 1985-86 could have had up to two years of BCC instruction.

Thus, time in BCC instruction as indicated by the number of years of BCC instruction was used to explain differences in content achievement.

The spring tests selected for this part of the evaluation were the standardized tests in English used in examining the impact of English proficiency (see above). The rationale for using 1985-86 data is also presented above. A repeated measures ANOVA with two repeated factors was used to assess the findings. Factors were: time in BCC instruction in either content area (mathematics or combined instruction, one or two years for either cohort as only one student in Cohort I had received three years of BCC instruction in mathematics) and tests (fall and spring). Results of repeated measures ANOVAs for both cohorts follow.

Cohort I, BCC Group, February 1984-June 1986

The tests analyzed were the CTBS content area tests in mathematics, science and social studies in English. On the CTBS mathematics test there was a highly significant difference between the groups with one and two years of BCC instruction in mathematics. As can be seen in Table 8, students with one year of BCC instruction in mathematics score significantly higher than students with two years of BCC instruction in mathematics. On the CTBS science test in English, the same difference is evident; statistically the findings approach significance (p=.09). On the social studies test the results follow the same pattern, although the difference in achievement between students with one and two years of bilingual instruction is not statistically significant.

Two plausible explanations for these findings are: 1) higher achievers may only require one year of BCC, while the average students may require two years; or 2) the program may not be fully meeting the needs of students who require more than one year of such instruction, as longer participation does not seem to lead to higher achievement on content tests.

These findings reflect the results found using time in ESOL instruction to explain content achievement. The findings also emphasize the fact that students are offered BCC instruction based on their level of English proficiency, so that students who exit the ESOL program do not receive BCC instruction. Those students who had BCC instruction for one year were probably some of the same students who had one year of ESOL instruction.

It is evident that students with one year of BCC instruction always performed better than students with two years of BCC instruction. There was only one statistically significant difference between one and two years of BCC instruction which was found on the CTBS mathematics test. Nevertheless, findings on the three standardized tests suggest that students who exit the BCC program after one year, possibly the "higher achievers," obtain higher scores in content area tests than students who remain in the program for two years, as reflected in test scores after exiting the program. The "average achievers" may require two years of content support instruction, or the needs of students who require two years of such instruction may not be fully met.

Cohort II, BCC Group, September 1984-June 1986

The tests analyzed were the standardized TOBE content area tests in English. The differences in achievement between students with one or two years of BCC instruction were all highly significant. As can be seen in Table 8, students with one year of BCC instruction (either mathematics or combined instruction) achieved higher scores on all tests than students with two years of BCC instruction.

The differences appear to be strong, although a significant interaction effect was found on the social studies test which undermines the results of differences by years of BCC instruction. The interaction suggests that achievement findings are affected differently by the one year and two year groups representing time in BCC instruction. This renders any main effects as uninterpretable. Nevertheless, the pattern is the same as that found with Cohort I, indicating higher student performance on content area tests for students with one year of BCC instruction.

Generally, findings with both cohorts on standardized content area tests in English revealed that students with one year of BCC instruction achieve higher scores on content area tests than students with two years of BCC instruction. Cohort I had one statistically significant difference on CTBS mathematics between groups with one and two years of BCC instruction in mathematics. The pattern on science and social studies was not statistically significant, but it reflected the same trend.

Cohort II students had three statisticaly significant differences (but one is uninterpretable because there was a significant interaction effect). The findings of Cohort II were the same as those for Cohort I. These results indicate that students in both cohorts achieve higher scores on content area tests when they have one year of BCC instruction.

Summary of Achievement Results

To summarize the results, it is evident that at the end of 1985-1986 there is no clear pattern of results which indicates that either strategy (BCC, No-BCC) leads to higher level of performance in content achievement of pilot project students. Results from 1985-1986 ANCOVAS for both cohorts revealed no statistically significant differences on achievement between BCC and No-BCC groups on any of the tests administered. Three repeated measures ANOVAs on selected tests for Cohort II also showed no significant differences between the groups.

The analyses of achievement results by student English proficiency, using BCC and No-BCC students' scores combined, showed strong and significant results in both cohorts. On standardized tests in English, students with one year of ESOL instruction achieved higher scores than students with two and three years of ESOL instruction. It seems that students who acquire English skills quickly also achieve high scores on content area tests, two years after exiting the program. The number of years students participated in ESOL (used as an independent measure of English ability) may also be an indicator of achievement on content area tests; however, further investigation of this finding is suggested.

Examination of whether length of time in BCC adds significantly to achievement of students in the BCC strategy presented similar results to time in ESOL instruction, although not as strong. In Cohort I, only mathematics was statistically significant, but the same trend was apparent in science and social studies. Students with one year of BCC instruction tended to score higher than students with two years of BCC instruction. For Cohort II the pattern was stronger and there was one more statistically significant difference. Overall, students who have one year of BCC instruction achieve higher scores than students with two years of BCC instruction. The latter group of students had lower scores and as many were still ESOL Levels III and IV, may require different methodology in the second and/or third year of content support instruction.

PILOT PROJECT IMPLEMENTATION

The third question addressed by this evaluation was "Was the pilot project implemented appropriately with respect to the guidelines and other relevant programmatic factors?

To succesfully answer this question, data were gathered on major project implementation characteristics which were specified in the guidelines for implementation (see Appendix B), and other characteristics considered relevant to the implementation of the program. The following implementation characteristics were examined:

I. Project Characteristics Specified in the Guidelines

- A. Time allocations
- B. Instructional materials
- C. Language of instruction
- D. Teacher training and experience
- E. Class size

II. Additional Characteristics, Not Specified in the Guidelines

- A. Instructional approach
- B. Implementation of the pilot project: teacher and principal perceptions
- C. Administrative, school and parental support: teacher and principal perceptions
- D. Students' attitudes and performance: teacher and principal perceptions
- E. Methodologies for teaching LEP students: teacher and principal opinions

To assess program implementation, various instruments were utilized: questionnaires for teachers and principals, implementation check forms for recording information obtained in teacher interviews, and teacher/student observation forms to sample behaviors and the language in which they occured during content area instruction.

A questionnaire (see Appendix A) was designed, based on questionnaires used on previous data collections, and administered at the end of the school year to teachers of both Cohorts I (Grade 2) and II (Grade 1). Eighty-four (84) teachers completed the questionnaire; 21 BCC first grade teachers and 22

No-BCC first grade teachers for Cohort I; and 19 BCC second grade teachers and 22 No-BCC second grade teachers for Cohort II. The response rate for all project teachers was 83%.

A similar questionnaire, included in Appendix A, based on questionnaires used in previous years, was developed for principals. Nine (9) principals completed the questionnaire; 6 BCC principals and 3 No-BCC principals. The response rate was 75%.

Mid-year implementation check forms (see Appendix A) were completed presenting information for a total of 126 second grade students in Cohort I; 62 BCC students and 64 No-BCC students. Information for a total of 148 first grade students was completed for Cohort II; 86 BCC students and 62 No-BCC students.

Observations (see instruments in Appendix A) were conducted for both Cohorts I and II teachers in all of the pilot project schools (6 BCC and 6 No-BCC schools.) The mathematics class with the largest group of pilot project participants was selected for observation in each of the schools. A total of 12 classroom observations were held for each cohort. Observations for Cohort II (Grade 1) focused on teacher/student behaviors in the home language, while observations for Cohort I (Grade 2) addressed program characteristics, such as, verification of participation in BCC instruction and date of ESOL level classification changes.

On the end-of-year questionnaire, both teachers and principals were asked to respond to the majority of items by using Likert-type rating scales. They used a five-point scale ranging from "strongly agree" to "strongly disagree," for items related to their perceptions of program implementation and opinions about teaching LEP students.

Questionnaire data were analyzed separately for BCC and No-BCC schools, and for teacher/principal responses. As in the First and Second Interim Reports, simple descriptive statistics (mean ratings) for each item were calculated for BCC and No-BCC classroom teachers and BCC and No-BCC principals. In addition, descriptive longitudinal summaries (three years of implementation) were prepared for Cohort I.

In order to examine the comparability of instructional practice, classroom activity was observed and recorded during mathematics instruction in one class per school containing the BCC or No-BCC pilot project students for Cohort II. The average observation time was 32 minutes. The two observers, trained in classroom observation techniques during 1984-85, who performed the observations for the second year of the project also were responsible for collecting observation data for this report. After observation data were collected, frequency distributions were compiled for Cohort II data and comparisons were made of BCC and No-BCC teachers using a particular teaching practice and the language in which instruction was delivered.

Since the objective of the BCC evaluation is to assess the outcome of the two strategies on student performance in content area achievement, it was necessary to determine that the two strategies were carried out comparably, when applicable. Also, it was necessary that the specific requirements for carrying out each strategy were followed. If each strategy were not implemented fully, then the evaluation cannot answer the question of whether one strategy has more effect on student achievement than the other. In order to address these issues, program characteristics were examined to determine whether 1) they were comparable in BCC and No-BCC schools in areas required by the guidelines, and 2) whether they were different in language usage in BCC and No-BCC, as per program requirements, and 3) they might have had an effect on student achievement (see Discussion section of Report).

Cohort I, 1985-86 Implementation Results and Longitudinal Analysis

I. Project Characteristics Specified in the Guidelines

Time Allocations

In both BCC and No-BCC schools, the program guidelines called for 45 minutes to be allocated for mathematics instruction and no specific time requirement for combined instruction. As in the analysis of the data that were collected for the first grade of Cohort I (reported in the Second Interim Report), a large degree of variability was expected due to differences in ESOL levels and participation in Chapter I and State Compensatory Education. Pilot project students were no longer in self-contained classes.

At the end-of-year implementation check, as shown in Table 9, the average daily time for mathematics instruction in the BCC schools was 52 minutes (range was 45-75 minutes). The average daily time for No-BCC schools for mathematics instruction was 49 minutes (range was 45-60 minutes). The average weekly time for BCC schools was 4.3 hours and for No-BCC schools 4.1. Therefore, while variation from the program guidelines was found in both strategies, the BCC schools presented a slightly higher amount of time devoted to mathematics instruction.

Results for combined instruction (science, social studies and health/safety) were of a similar nature. The average daily time for BCC schools was 45.5 minutes (range was 30-120 minutes). No-BCC schools reported an average of 43 minutes (range was 25-65 minutes) of combined instruction. The average weekly time devoted to combined instruction in the BCC schools was four (4) hours while the No-BCC schools reported an average of 3.3 hours. Since there were no stipulated guidelines for time in combined instruction, there was not an issue of compliance. A higher weekly average is reported for the BCC schools than for the No-BCC schools but the effect of the wider range (one teacher reporting 120 minutes daily, four times a week) increased the weekly average.

In summary, BCC teachers reported ,in 1985-86, more variation in teaching time than did No-BCC teachers. BCC students apparently received slightly more time in mathematics and combined instruction than No-BCC students.

Variations in instructional time were observed throughout the three year follow-up of Cohort I. In summary, BCC teachers reported more variation in teaching time than did No-BCC teachers. Variations were reported to the bilingual program staff for corrective action. Even though time allocation differences were corrected, they continued to occur each year. It is to be noted that greater variation in time allocation was observed in kindergarten. Differences in time allocation for content instruction between the strategies were less pronounced in the first and second grades.

Instructional Materials

According to the BCC project guidelines, instructional materials in BCC and No-BCC schools were to be of comparable quality and quantity.

For teaching mathematics and combined instruction, the extent of use of available instructional resources was very similar between the BCC and No-BCC strategies. None of the BCC or No-BCC teachers reported the use of instructional material in Spanish for mathematics and combined instruction. Thus, BCC and No-BCC schools were in compliance with project guidelines.

The extent of use of materials for ESOL and Spanish-S instruction was comparable for BCC and the No-BCC teachers.

In summary, materials for mathematics, combined instruction, ESOL, and Spanish-S were comparable for BCC and No-BCC schools in the 1985-86 implementation year.

Comparability regarding the quantity and quality of instructional materials was observed throughout the three years of follow-up of Cohort I.

Language of Instruction

In the BCC schools, the guidelines for teaching bilingual curriculum content called for Spanish to be used during the time allocated for BCC, and English to be used the rest of the school day, except for Spanish-S. In the No-BCC schools, English was to be the sole language of instruction, except for Spanish-S. The time requirement for home language in BCC instruction was specified as 50% for ESOL Levels I and II and "time as appropiate"... "if determined to be needed" for ESOL Levels III and IV. Implementation check data did not reveal any BCC or No-BCC teachers surveyed as utilizing Spanish for instruction with ESOL Levels III and IV students, therefore, teachers in both strategies were in compliance with project guidelines. According to the project guidelines, only ESOL Levels I and II would have been "entitled" to instruction in Spanish during mathematics and combined instruction in the BCC strategy. There were no pilot project students in Levels I and II during 1985-86 (second grade of Cohort I).

A series of questions included in the Teacher Questionnaire asked the teachers opinions on various methodological approaches as regard to language usage in teaching content subjects to Limited English Proficient (LEP) students. Mean ratings for BCC and No-BCC teachers revealed a close similarity in regard to their opinions toward "appropiate" use of home language in teaching LEP students (Table 10).

In summary, teachers in the No-BCC strategy were in compliance with program guidelines by conducting instruction in English only. For teachers instructing students comprising the original BCC group, (currently ESOL Levels III and above) the guidelines leave the use of Spanish to the discretion of the teacher. Thus, the absence of Spanish usage reported by teachers in the implementation check, is also in compliance with program guidelines.

Expected patterns of usage of home language were generally observed throughout the three year follow-up of Cohort I. This was reported as initial instruction for BCC students in English and Spanish, or primarily in Spanish with an accelerated decline in the use of Spanish as the students progressed toward proficiency in English. Some variation was reported for No-BCC schools with the limited use of Spanish in instruction for clarification or for classroom management. Even so, language usage was examined as an implementation factor presenting no significant contribution to content achievement (see Second Interim Report).

Teacher Training and Experience

As stated in the guidelines, pilot project teachers in BCC and No-BCC schools were to be comparable in qualifications. BCC and No-BCC teachers were comparable with respect to degrees and certifications held. All of the teachers in the two strategies were experienced teachers; all of the BCC and the No-BCC teachers had at least one year of experience working with LEP students.

Teachers providing content area instruction were surveyed about the inservice training they had received in methodologies for teaching LEP students. The number of courses taken were comparable for BCC and No-BCC teachers except for a course in

Curriculum Content in English using ESOL techniques. A higher number of No-BCC teachers reported taking this particular inservice course.

In summary, in keeping with the guidelines, both BCC and No-BCC teachers had comparable levels of professional training, certification, and years of teaching experience.

Comparability was found for BCC and No-BCC teachers in regard to professional training and experience throughout the two year follow-up of Cohort I. No-BCC teachers, reported receiving less inservice training in methods for teaching LEP students than BCC teachers. Many project teachers felt they needed more training to carry out the project.

Class Size

As stated in the program guidelines, class size (teacher-pupil ratio) was to be as consistent as possible across both strategies of instruction. The recommended class size was 18-24 students. The average class size for the classes containing BCC students was 24 students and the average class size for No-BCC students was 23.

In summary, even though there were classes that exceeded the recommended size, overall, both strategies were comparable.

Class size was generally comparable throughout the three years for both strategies; more variability was found in the first grade (1984-85), where more BCC students were in classes of larger sizes than No-BCC students. Greater variability in class size was observed after project students became eligible for special services, like Chapter I, that require a smaller class size.

II. Additional Characteristics, Not Specified in the Guidelines

Instructional Approach

Teachers were surveyed as to their preference toward instructional organization and practice. The intent of this inquiry was to establish comparable educational conditions in the classrooms between the two strategies. Questions were asked that probed organization and planning of instructional activity. Descriptive statistics were applied to the data and revealed the following results.

Upon inspection of the data (Table 10), it was evident that more BCC teachers had the services of a classroom aide and made more use of that resource. All other areas of instructional planning and organization were comparable between the two strategies.

The major discernible trend in the three year follow-up of Cohort I was the apparent use of classroom aides by teachers in the BCC schools as opposed to the teachers in the No-BCC schools (Table 13). It is to be noted that even though BCC teachers reported higher ratings, these were still below the "moderate use" level.

Administrative, School, and Parental Support: Teacher and Principal Perceptions

Teacher perceptions. Teachers in both strategies were consistent as to their responses to items pertaining to program implementation issues (see Table 10). Many teachers in both strategies expressed, in open-ended items, the need for more orientation and clarity regarding the program. These comments were consistent with the fairly low mean ratings from both strategies.

BCC and No-BCC teachers had comparable perceptions of school and parental support of the project. In general, both strategies perceived a fairly good support of the project from all concerned.

Principal perceptions. Principals in both strategies were comparable in their perceptions of program implementation (Table 11). Their ratings were considerably high for all items included in the program implementation section of the questionnaire. In regard to school and parental support BCC principals reported uncertainty in their perceptions.

In summary, the perceptions of both Cohort I teachers and the principals were comparable for both strategies except for a reported uncertainty on the part of BCC principals in regard to school and parental support.

Throughout the follow-up of Cohort I, both BCC and No-BCC instructional staff perceived a clear need for greater orientation as well as direction in the implementation of the project (Table 12). In regard to school support, even though there were some initial differences between strategies (BCC teachers reporting lower ratings) these differences were subsequently reduced. The principals in both BCC and No-BCC schools perceived the direction provided by the district to be more adequate than did the teachers (Table 13). BCC principals reported lower overall mean ratings than No-BCC principals in regard to school support.

Students' Attitudes and Performance: Teacher and Principal Perceptions

Teacher perceptions. Teachers in both strategies reported comparable ratings above the mid-point in the scale perceiving a fairly positive attitude from students as well as improved levels of performance in content subjects (Table 10).

Principal perceptions. For principals in both strategies, comparable ratings were reported as to students' attitudes toward learning curriculum content and to school in general (Table 11). Perceptions of students' attitudes were consistent and comparable for teachers and principals in both strategies throughout the two year follow-up of Cohort I (Tables 12 and 13).

Methodologies for Teaching LEP Students: Principal and Teacher Opinions

Teacher opinions. Both BCC and No-BCC staff were asked their opinions about the appropiate use of English and the home language for teaching LEP students (Table 20). On the issue of whether LEP students should learn content subjects bilingually until they become proficient in English, BCC teachers tended to agree more than the No-BCC teachers although both were above the mid-point of the scale. A similar pattern emerged on the question of whether home language usage should decrease as English proficiency increases. BCC teachers reported a higher level of agreement.

Principal opinions. Principals reported comparable ratings for both strategies with ratings above the mid-point of the rating scale except for the question of whether LEP students should be taught content subjects in English only. Both BCC and No-BCC principals reported considerable uncertainty regarding this issue (Table 11).

Analyzing teacher data longitudinally, BCC teachers of Cohort I consistently reported, throughout the two year follow-up, higher agreement with three main issues. First, teachers agreed that LEP students should learn content subjects bilingually until they become proficient in English. Second, use of the home language in teaching content subjects should decrease as students' English proficiency increases. Third, the rate of cognitive development in LEP students is enhanced when they acquire parallel skills and concepts in the home language and English (see Table 12).

It is to be noted, that for teachers of both strategies for the initial period (February - May 1984) of the project, there appeared to be a strong disagreement with the methodology of teaching mathematics in the home language (questionnaire contained an item specifically refering to mathematics instruction) until the student became proficient in English. The disagreement was not found for combined instruction.

Cohort II, 1985-86 Implementation Results

Implementation results for Cohort II are presented for 1985-86 only.

I. Project Characteristics Specified in the Guidelines

Time Allocations

Program guidelines specified that for both BCC and No-BCC schools a total of 45 minutes was to be allocated for mathematics instruction. No specific time requirement was stipulated for combined instruction.

At the end-of-year implementation check, as shown in Table 14, the average daily time for mathematics instruction for Cohort II in the BCC schools was 48.3 minutes (range was 30-60 minutes). The average daily time for No-BCC schools was 51.4 (range was 45-60). The average weekly time for BCC schools was 4 hours and for No-BCC schools 4.3 hours. Therefore, while variation from the program guidelines was found in both strategies, the No-BCC schools reported a slightly higher amount of time devoted to mathematics instruction.

The results for combined instruction (science, social studies, and health/safety) were as follows: the average daily time for BCC schools was 39.1 minutes (range 20-130) and 38 minutes for the No-BCC schools (range 0-110). Weekly time was on the average 3.2 hours for the BCC schools and 3.1 hours for the No-BCC schools.

In summary, No-BCC students apparently received slightly more time in mathematics instruction than BCC students, while BCC students received slightly more time in combined instruction than No-BCC students. BCC teachers reported more variation in teaching time in mathematics than did No-BCC teachers. In regard to combined instruction, teachers in both strategies reported comparable variation in teaching time.

Instructional Materials

Project guidelines stipulated that instructional materials in both strategies were to be of comparable quality and quantity.

The extent of use of available instructional resources was very similar for the BCC and No-BCC strategies. Two BCC teachers reported the use of materials in Spanish for mathematics instruction and one BCC teacher for combined instruction. Two No-BCC teachers in one school reported using materials in Spanish for combined instruction.

The extent of use of materials for ESOL and Spanish-S instruction was comparable for BCC and No-BCC teachers.

In summary, materials were comparable for both strategies. Two teachers in the No-BCC strategy were not in compliance with program guidelines.

Language of Instruction

In the BCC schools, the guidelines for teaching bilingual curriculum content called for Spanish to be used during the time allocated for BCC, and English to be used the rest of the school day, except for Spanish-S. In the No-BCC schools, English was to be the sole language of instruction, except for Spanish-S. The time requirement for home language in BCC instruction was specified as 50% for ESOL Levels I and II and "time as appropriate" "if determined to be needed" for ESOL Levels III and IV.

Implementation check data revealed that the estimated percent of mathematics instruction time in Spanish for BCC schools was 52% (Table 14). This average was computed only for students "entitled," due to ESOL level, to bilingual instruction. The estimated percent of combined instruction time in Spanish for BCC schools was 42.1%. One instructor in a No-BCC school reported the use of Spanish with three project students. When this was averaged over the entire No-BCC group, it was negligible.

All pilot project schools were visited for the purpose of conducting classroom observations. One mathematics class containing the largest number of pilot project students was selected for observation at each of the schools. The observations did reveal some use of Spanish in the BCC schools and confirmed the sole use of English in the No-BCC schools. Five teachers were observed in the BCC schools. The sixth class was performing small group work; therefore, the observation could not be adequately conducted as structured. Of the BCC teacher behaviors sampled, an average of 24% occured in Spanish with the remaining (76%) in English. Four (4) of the 5 teachers observed used Spanish. Nine percent (9%) of the student behaviors sampled occurred in Spanish. Four (4) teachers were observed in the No-BCC schools (the remaining two classes were working independently in small groups). None of the teacher or student behaviors sampled occurred in Spanish.

In summary, time for both BCC and No-BCC teachers (with one exception) were in compliance with program guidelines.

Teacher Training and Experience

As stated in the guidelines, teachers in BCC and No-BCC schools were to be comparable in qualifications. BCC and No-BCC teachers were comparable with respect to degrees and certifications held. All of the teachers in the two strategies were experienced teachers; all of the BCC and No-BCC teachers had at least one year of experience working with LEP students.

Teachers who were providing content area instruction were surveyed in regard to inservice training they had received in methodologies for teaching LEP students. For all except one course listed, No-BCC teachers reported taking more inservice courses than the BCC teachers.

In summary, in keeping with the program guidelines, both BCC and No-BCC teachers had comparable levels of education, certification, and years of experience. A greater number of inservice courses taken in methods for teaching LEP students were reported by No-BCC teachers than BCC teachers.

Class Size

Program guidelines stipulated that class size (teacher-pupil ratio) was to be as comparable as possible across both strategies of instruction. The recommended class size was 18-24 students. The average class size for the classes containing BCC students was 25 students and for No-BCC students it was 27.

In summary, even though there were classes that exceeded the recommended size, overall both strategies were comparable.

II. Additional Characteristics, Not Specified in the Guidelines

Instructional Approach

As part of the teacher questionnaire, teacher preferences toward instructional organization and practice were surveyed. Questions were asked that probed organization and planning of instructional activity. Descriptive statistics were applied to the data and revealed the following results.

Upon inspection of the data (Table 15), it was evident that the two strategies were comparable in their approaches to instructional planning and organization. Both BCC and No-BCC teachers reported moderate use of grouping for instruction, using mathematics achievement criteria for grouping, planning and coordinating content instruction with instruction being provided by BCC, ESOL or Spanish-S teachers, and including English language development activities (oral and written) in content lessons.

In summary, the two stategies were comparable as to their preferences toward instructional organization and practice.

Administrative, School, and Parental Support: Teacher Perceptions

In regard to issues of program implementation, the BCC teachers reported uncertainty as to understanding the BCC Pilot Project's goals and objectives, the adequacy of the orientation received, the understanding of the criteria for student selection, and the adequacy of the direction received. No-BCC teachers expressed, in a more direct way, their dissatisfaction with the direction provided, as reflected in their lower ratings for these items (Table 15).

Teachers in both strategies reported comparable ratings for items pertaining to school and parental support of the project.

Students' Attitudes and Performance: Teacher Perceptions

For teachers in both strategies, comparable ratings were reported as to students' attitudes toward learning curriculum content and to school in general. BCC teachers had slightly higher ratings over the No-BCC teachers.

Methodologies for Teaching LEP Students: Teacher Opinions

Both BCC and No-BCC teachers were asked their opinions about the appropriate use of English and the home language for teaching LEP students (Table 15). Ratings for both strategies ranged from below the mid-point of the scale for the question of whether LEP students should be taught content subjects in English, to strong agreement with decreasing the use of the home language in teaching content subjects as English proficiency increases.

In summary, BCC and No-BCC teachers reported similar opinions in regard to teaching methodologies for the content instruction of LEP students.

Summary of Implementation Findings

The longitudinal analysis revealed that in general, the project was implemented according to the guidelines. Teachers in follow-up classes in first and second grade reported using (and were observed to use) Spanish moderately, as warranted by the students' ESOL level and teacher discretion. Instructional materials were comparable in quality and quantity in both strategies. Class size, and teacher experience were also comparable. A consistent variation was that the BCC teachers reported more time allocated to content subjects than did No-BCC teachers. In general, greater variation was observed in the kindergarten. Differences in time allocation for content instruction between the strategies were less pronounced in the first and second grades.

Recognizing the limited time for teaching all of the subjects in the elementary curriculum, it was found that BCC teachers tended to emphasize mathematics and not combined instruction.

With regard to instructional methods, generally, the teachers in both strategies were similar: i.e., grouping for instruction, communicating with parents, etc. One difference found was that, in general, BCC teachers tended to use instructional aides more with the exception of first grade teachers (1985-86) for Cohort II. However, it is noted that at no time were mean ratings reported for either strategy in both cohorts above "moderate use" levels in the utilization of classroom aides. Little or no use of materials in Spanish was reported by BCC teachers - in fact, the materials used in both strategies were quite similar and often identical.

The principals felt that they had received adequate orientation to the project, and that it was being carried out appropriately. The teachers, on the other hand, were less certain. Even though teachers had received on-site orientation from program staff, they nevertheless expressed a need for more inservice on the project.

Teachers in both strategies felt that parents and school staff supported the program, that their students had a positive attitude toward content instruction, and that their students had improved their level of performance in content subjects.

CONCLUSIONS

1. An analysis of achievement test results of Cohort I (in second grade) and Cohort II (in first grade), for the third project year 1985-1986, revealed no discriminating pattern of achievement between students in the BCC and No-BCC strategy. Students who were limited English proficient in kindergarten seem to achieve comparable degrees of academic progress in first and second grade, with or without BCC.

2. A repeated measures analysis to examine program effects over an extended period of time, confirmed earlier findings: no differences in achievement were found between BCC and No-BCC groups.

3. Achievement displayed by BCC students did not appear to be a function of time spent in the BCC program since students with one year in BCC achieved higher scores than students with two years. One explanation for this finding may be that "one-year BCC students" are also high achievers; they may also be the same students who exit ESOL after only one year. Another explanation may be that the methodology used in the second year of BCC does not fully address the needs of students who require more than one year of such instruction.

4. No differences were found between BCC and No-BCC schools in achievement by the number of years students were in the ESOL program. Students in both strategies who were in ESOL for one year consistently scored higher than students with two (or more) years in ESOL. This finding indicates that students who acquire English skills rapidly also tend to have higher performance in content areas. It also seems to confirm a previous finding (Second Interim Report) that English language ability strongly

influences achievement. Time in ESOL (as a measure of English language ability) may thus be an indicator of achievement on content tests, and warrants further study.

5. The longitudinal analysis revealed that in general, the project was implemented according to the guidelines. All aspects were comparable, with the exception of language usage, as required. Teachers in both strategies felt that parents and school staff supported the program, and that their students had a positive attitude toward, and improved performance in, content subjects.

6. Although the use of the home language in content areas was supposed to be the primary factor differentiating the two strategies, it was found that as designed, use of the home language is not sufficiently adequate to produce differences in achievement.

7. The BCC strategy, as implemented in this pilot project, in twelve elementary schools, is clearly not effective in its present form, as compared to the control strategy. If modifications are not made, it is likely that the program will continue to demonstrate no measureable effects in terms of achievement.

8. Comparisons were made between project students' scores on standardized tests in English (spring 1986), and national norms. Results indicated that Cohort I students (in second grade) appeared to be generally functioning at their instructional grade level (41st percentile and above). Their scores on Spanish versions of the tests were slightly lower. Inspection of Cohort II students' scores (in first grade) revealed lower achievement on English tests (norms for the Spanish tests were not available). These findings seem to suggest that LEP students in kindergarten will approximate instructional grade level national norms by the end of second grade; however, further study is warranted.

DISCUSSION

Based on the findings of this study, it seems that the BCC Program as implemented does not impact on student achievement in content areas in Grades K-2. Several explanations for the lack of differences in achievement between BCC and No-BCC groups are discussed below.

Amount of Instructional Time in the Home Language

In the pilot project, students in the No-BCC group received 30 minutes of home language arts daily, and content instruction in English. Students in the BCC group were provided one hour of home language instruction during their first year in the program: 30 minutes for Spanish-S, 15 minutes in mathematics, and 15 minutes in "combined instruction." In the second year, as BCC students acquired more English skills, (ESOL Levels III-IV), instruction in the home language was provided as needed, based on teacher discretion. Consequently, many BCC students in ESOL Levels III-IV received all or part of their content instruction in English.

There is a large theoretical base for additional instructional time in the home language, rather than the minimal amount shown for the BCC Program. Researchers contend that some children may need three years of bilingual education to master "academic English," some may need as much as six years (Cummins, 1984). Willig's meta-analysis of bilingual education research found that bilingual education programs succeeded better than submersion or ESOL programs (which do not use the home language), in teaching LEPs reading, mathematics and other school subjects (Willig, 1985). According to Hakuta and Snow (cited in D. August, 1986), most schools move children out of bilingual education and into a regular classroom as soon as they can hold their own in a conversation. The children may still lack language skills they need to tackle unfamiliar subjects in English - mathematics, science, and social studies.

In transitional bilingual education programs, home language instruction is gradually phased out. Although there is no exact rule for the amount of time the student should be taught in and through the home language, some researchers recommend that at least 50% of instruction in the early grades be through the child's primary language (Cummins, 1984; Legarreta, 1984). Tikunoff (1984) reported that in more effective bilingual classrooms, English was used for instruction approximately 60% of the time, and the home language (or the home language and English), approximately 35%.

It should be noted that the initial plans submitted to OCR by DCPS bilingual program staff called for 150 minutes daily in the home language, decreasing to 120 minutes during the first year (see Plan for Meeting the Instructional Needs of Students of Limited-English-Speaking Ability, 1976-79, DCPS, 1976). The 1976 plan also provided specific guidelines for diminishing amounts of home language instruction in the second and third year, (in contrast to the present plan). However, due to budgetary limitations, the program was cut back to its present form.

It is possible that if instructional time in the home language is increased, and Spanish is phased out more gradually, as was originally proposed, the impact of the Transitional Bilingual Basic Skills (TBBS) Program on student achievement would be greater.

Instructional Materials

The instructional materials used in BCC were found to be generally the same as those used in the regular curriculum taught in English, which is in keeping with the TBBS Program goal of mainstreaming LEP children as quickly as possible. Nevertheless, the lack of use of bilingual materials, as reported by the BCC teachers, suggests that activities relevant to the students' sociocultural background which would appear in bilingual materials, are being omitted from BCC instruction.

> Such activities would be in alignment with the minority community's way of communicating, the ways in which the child relates to others socially, and the child's preferred modes of thinking and problem solving. (Hernandez-Chavez, 1984, p. 174)

It seems that resources which can potentially increase a child's self-esteem, as well as cognitive development, are not fully utilized. Furthermore, Mackey (1972) also states that a child may profit from using two monolingual textbooks (one in each language), as they offer two different approaches to learning. Although the use of materials in the home language was not specified in the guidelines, the limited use of such materials may be a contributing factor to the equivalent achievement of students in both strategies.

It is also noted that the utilization of any one language in classroom instruction may not depend entirely on the teacher but on other factors, such as the language of the materials being utilized. The absence of bilingual materials in the BCC strategy may have impacted on the practices in the use of home language. A teacher in a bilingual program using a textbook in English would tend to do most of his/her teaching in English (Mackey, 1972).

Language Use Patterns

BCC teachers used the home language to introduce, explain, clarify and reinforce the concepts of the content subjects. The methodology they used can generally be described as "concurrent translation" - whereby English and Spanish are used in teaching during the same lesson. (However, teachers did not mix the two languages in the same sentence.)

Alternate immersion is a language pattern used in some bilingual programs, whereby some subjects are taught in the student's first language, others in the second language; or, using the two languages at different times of the day, i.e., morning and afternoon. Some theorists feel that the concurrent language approach leads to a dependency on translations, and that the two languages should be kept separate. There is some evidence showing higher achievement where "alternate immersion", rather than concurrent translation, is used as found in Pena-Hughes and Solis' research (cited in Willig, 1985) and Legaretta's study (1979, cited in Legaretta, 1984). Cazden (1985) also supports a strict separation of the two languages for instruction.

On the other hand, the research evidence of the Significant Bilingual Instructional Features Study found that effective bilingual education teachers mediated their teaching to ensure that all LEP students had access to instruction. The effective teachers used the home language some of the time, for some of the instructional content, for some of the students (Tikunoff, 1984). This approach is similar to that followed by the BCC teachers in the present evaluation. Apparently, there is conflicting information as to which language use pattern is superior in promoting academic achievement in LEP students, although the evidence seems to lean toward separate use. It is possible that different language use patterns in the BCC program may produce higher achievement for BCC students, and should be further explored by program staff.

Although program staff monitored the project operations, it is possible that some instruction in Spanish occurred unintentionally in the No-BCC schools. In addition, No-BCC teachers were also found to have taken numerous bilingual inservice courses. While this training ensured the comparability of teachers in both strategies, it also could have been another factor contributing to the lack of achievement differences between the two groups.

But most importantly, although no significant differences were found between BCC and No-BCC groups on content area achievement in either language; it appears that Cohort I students in both strategies (BCC and No-BCC) are performing adequately (at instructional grade level) as related to available national norms. The results for Cohort II are expected to follow the same pattern.

RECOMMENDATIONS

1. The BCC program should be substantially modified, or replaced with a newly developed model. Recommendations toward modifying BCC, or developing a new model, are: a) bilingual materials should be used; b) more time should be allocated for teaching students content in the home language, and c) different language patterns for teaching content in the home language should be explored.

2. Continue orientation and inservice on BCC. Expand inservice offerings in methods for teaching LEP students, materials usage, assessment techniques and other areas requested by teachers.

3. Evaluate the BCC program in intermediate grades in elementary schools and in secondary schools.

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APPENDICES

APPENDIX A

Implementation Instruments and Surveys

OFFICE OF EDUCATIONAL ACCOUNTABILITY

MEMORANDUM

RT-2431
May 15, 1986

TO: All BCC Pilot Project Principals

FROM: Ray Turner, Assistant Superintendent
Office of Educational Accountability

SUBJECT: BCC PILOT PROJECT ADMINISTRATOR QUESTIONNAIRE

As part of the overall evaluation of the Bilingual Curriculum Content (BCC) Pilot Project, the Office of Educational Accountability is requesting that principals of participating schools complete the attached questionnaire. It is very important that we have your responses, in order to understand from the administrator's perspective the impact the project has had on your school. Separate questionnaires were developed for the pilot project teachers, and are also enclosed. We would appreciate your distributing the Teacher Questionnaires to the first and second grade pilot project teachers.

The data gathered through these questionnaires will be used to develop an overall description of the pilot project's functioning. We are interested in determining how the project was implemented in your school, what you think about its current operation and effectiveness, and what modifications need to be made. We are also interested in knowing your opinions about how limited English proficient students should be taught content subjects. Your comments and recommendations regarding the implementation of the project for the academic year 1986-87 are important to the success of the evaluation.

All results of the questionnaires will be treated in aggregate comparisons between "BCC" and "No-BCC" schools. No individual principal or school will be named in any description, and all responses will remain anonymous. Please complete the enclosed questionnaire and return it in the attached, self-addressed envelope to this office by June 6, 1986.

If you have any questions concerning the questionnaire or any aspect of the evaluation, please contact Dr. Sylvia Rothfarb at the Office of Educational Accountability (376-1506).

RT:SR:ln
attachments

DADE COUNTY PUBLIC SCHOOLS
Office of Educational Accountability
Bilingual Curriculum Content Pilot Project (BCC/No-BCC)
Administrator Questionnaire

School Name: ______________________ BCC ____ No-BCC ____

A. Program Implementation

For each of the following statements on the BCC Pilot Project implementation, please indicate the extent of your agreement or disagreement. Using the scale below, select the appropriate number and write it in the space provided on the right. If an item is not applicable, please write in NA.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

1. The BCC Pilot Project is operating in my school as stated in the guidelines, "Planning for Implementation of the BCC Pilot Project for 1985-86" (Memorandum of September 4, 1985) ...... ____

2. I understand the goals and objectives of the BCC Pilot Project .... ____

3. I understand the criteria used to select students for this project .... ____

4. I have been provided adequate direction in the implementation of the project .... ____

5. First and second grade Pilot Project limited English proficient (LEP) students have opportunities during the school day to interact with non-LEP students .... ____

For questions 6 and 7, please write in the information requested.

6. What difficulties did you have in implementing the BCC Pilot Project this year?

   a) First Grade: ______________________________

   b) Second Grade: ______________________________

Auth: MIS; Exp. Date: June 30, 1986

7. In order to improve our procedures for implementing the BCC Pilot Project next year, what recommendations would you make?

____

____

____

____

B. School and Parental Support

For each of the following statements with regard to school and parental support for the Pilot Project, please indicate the extent of your agreement or disagreement. Using the scale below, select the appropriate number and write it in the space provided on the right.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

1. You have a positive attitude toward the project .... ___

2. Your assistant principal has a positive attitude toward the project .... ___

3. Teachers in the school who are not part of the project have a positive attitude toward the project .... ___

4. First and second grade teachers in the BCC Pilot Project have a positive attitude toward the project .... ___

5. Parents have been adequately informed as to the BCC Pilot Project goals, objectives, and curriculum .... ___

6. Parents have a positive attitude toward their children learning content subjects bilingually until they learn English (BCC schools only)................................. ___

7. Parents have a positive attitude toward their children learning content subjects solely in English (No-BCC schools only).. ___

C. Students' Attitudes

For the following statements on perceptions of students' attitudes and performance, please indicate the extent of your agreement or disagreement. Using the scale below, select the appropriate number and write it in the space provided on the right.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

1. The BCC Pilot Project students have a positive attitude toward learning curriculum content .... ___

2. The BCC Pilot Project students have a positive attitude toward school .... ___

D. Methodologies for Teaching Content Subjects to LEP Students

For the following statements on methodologies for teaching content subjects to LEP students, please indicate the extent of your agreement or disagreement. Using the scale below, select the appropriate number and write it in the space provided on the right.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

1. LEP students should learn content subjects bilingually until they become proficient in English .... ____
2. Use of the home language in teaching content subjects should decrease as students' English proficiency increases .... ____
3. LEP students should be taught content subjects in English only. .... ____
4. LEP students should be taught content subjects in both English and the home language .... ____
5. The rate of cognitive development in LEP students is enhanced when they acquire parallel skills and concepts in the home language and English .... ____
6. Content instruction in the home language may be more appropriate for students in the intermediate grades than for those in the primary grades .... ____

Comments ____

____

____

____

Auth: MIS; Exp. Date: June 30, 1986

DADE COUNTY PUBLIC SCHOOLS
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MR. G. HOLMES BRADDOCK
MR. PAUL L. CEJAS
DR. MICHAEL KROP
MS. JANET R. McALILEY
MR. WILLIAM H. TURNER

May 15, 1986

Dear BCC Pilot Project Teacher:

As part of the overall evaluation of the Bilingual Curriculum Content (BCC) Pilot Project, the Office of Educational Accountability is requesting that participating classroom and BCC supplementary teachers complete a questionnaire. Please complete the enclosed questionnaire, and return it in the attached, self-addressed envelope to this office no later than June 6, 1986. We realize that this is a very busy time for you, and we apologize for any inconvenience this may cause. However, your response is important, and needed in order to complete this year's evaluation of the BCC project.

The information gathered through these questionnaires will be used to develop an overall description of the pilot project's functioning. We are interested in determining how the project was implemented in the classroom, what you think about its current operation and effectiveness, and what modifications need to be made. We are also interested in knowing 1) your opinions about how limited English proficient students should be taught content subjects, and 2) your training and experience in working with these students.

All results of the questionnaires will be treated in aggregate comparisons between "BCC" and "No-BCC" schools. No individual teacher or school will be named in any description, and all responses will remain anonymous.

If you have any questions concerning the questionnaire or any aspect of the evaluation, please contact Dr. Sylvia Rothfarb at the Office of Educational Accountability (376-1506).

Your cooperation is greatly appreciated.

Sincerely,

Ray Turner, Assistant Superintendent
Office of Educational Accountability

DADE COUNTY PUBLIC SCHOOLS
Office of Educational Accountability
Bilingual Curriculum Content Pilot Project (BCC/No-BCC)
First Grade Teacher Questionnaire

School Name: ______________________________ BCC ___ No-BCC ___

Number of Pilot Project Students ________ Total Class Size ________

Please check (/) if you are:

___ Regular classroom teacher

___ Chapter 1 classroom teacher

___ BCC Supplementary teacher

Class Composition as of May 1
including pilot project students:
Number of students in
ESOL Level 1 ________
Level 2 ________
Level 3 ________
Level 4 ________
Independent ________
Native English Speakers ________

A. Program Implementation

For each of the following statements on the BCC Pilot Project implementation, please indicate the extent of your agreement or disagreement. Using the scale below, select the appropriate number and write it in the space provided on the right.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

1. I understand the goals and objectives of the BCC Pilot Project .... ___
2. The orientation I received for this program was adequate. ___
3. I understand the criteria used to select students for this project .... ___
4. I have been provided adequate direction in the implementation of the project .... ___

B. School and Parental Support

For each of the following statements with regard to school and parental support for the Pilot Project, please indicate the extent of your agreement or disagreement. Using the scale below, select the appropriate number and write it in the space provided on the right.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

1. The school administration has a positive attitude toward the project .... ___

Auth: MIS; Exp. Date: June 30, 1986

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

2. Teachers in the school have a positive attitude toward the project .... ____

3. Parents have been adequately informed as to the BCC Pilot Project goals, objectives, and curriculum .... ____

4. Parents have a positive attitude toward their children learning content subjects bilingually until they learn English (BCC schools only)........................ ____

5. Parents have a positive attitude toward their children learning content subjects solely in English (No-BCC schools only) .... ____

C. Students' Attitudes and Performance

For the following statements on perceptions of students' attitudes and performance, please indicate the extent of your agreement or disagreement. Using the scale below, select the appropriate number and write it in the space provided on the right.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

1. The BCC Pilot Project students have a positive attitude toward learning content subjects........................ ____

2. The BCC Pilot Project students have improved their levels of performance in content subjects, between September and May .... ____

D. Methodologies for Teaching Content Subjects to Limited English Proficient (LEP) Students

For the following statements on methodologies for teaching content subjects to LEP students, please indicate the extent of your agreement or disagreement. Using the scale below, select the appropriate number and write it in the space provided on the right.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

1. LEP students should learn content subjects bilingually until they become proficient in English .... ____

2. Use of the home language in teaching content subjects should decrease as students' English proficiency increases .... ____

3. LEP students should be taught content subjects in English only. .... ____

4. LEP students should be taught content subjects in English and Spanish .... ____

5. The rate of cognitive development in LEP students is enhanced when they acquire parallel skills and concepts in the home language and English .... ____

6. Content instruction in the home language may be more appropriate for students in the intermediate grades than for those in the primary grades .... ____

7. Please list the techniques you have found effective in teaching content to LEP students: ____________________

____

____

____

E. In order to improve our procedures for implementing the BCC Pilot Project next year, what recommendations would you make?

____

____

____

____

____

F. Instructional Approach

Listed below are several instructional strategies which can be used in teaching limited English proficient children. Using the scale below, indicate the extent to which you have used each strategy with PILOT PROJECT STUDENTS, by placing the appropriate numerical code in the space provided on the right. If you have used strategies not described below, please write these in (and provide appropriate codes) in the space provided at the end of each list. If an item does not apply, write in NA.

No Use	Little Use	Moderate Use	Extensive Use
1	2	3	4

Instructional strategies:

1. working with an aide under your supervision .... ____

2. dividing class into groups for instruction .... ____

3. grouping students by achievement criteria in math .... ____

No Use	Little Use	Moderate Use	Extensive Use
1	2	3	4

4. grouping students by achievement criteria in "Combined Instruction (science, social studies, health/safety) Language Experience/Oral Development .... ____

5. grouping students by English (L_2) proficiency .... ____

6. planning and coordinating content instruction with instruction provided by the following supplementary teachers in bilingual programs: BCC, Spanish-S and ESOL teachers .... ____

7. including English language development activities (oral and written) in content lessons .... ____

8. communicating with parents of Pilot Project students on the students' progress .... ____

9. other (specify): ____________________ .... ____

G. Training and Experience in Teaching Limited English Proficient Students

The following questions concern your training and experience in teaching limited English proficient students. Please circle all numbers that apply in each question, or fill in the information requested.

1. What degree(s) do you have ? (Circle all that apply)

bachelor's 1
master's 2
educational specialist 3
doctorate 4

2. How many years have you been a teacher? __________

3. How many years have you taught LEP students? (Include years you have taught in a foreign country, and years you worked as an aide, if applicable.) ___________

4. In which areas do you hold Florida certification?

Elementary 1
Early Childhood 2
Junior High/Middle School 3
Secondary 4
Supervision 5
Administration 6
Bilingual Education... 7
ESOL 8
Languages, Spanish 9
English 10
Mathematics 11
Social Studies 12
Science 13
Other: (specify) ____________________ 14

5. If you hold teaching credentials or certification from another state, please describe: ______________________________

6. What is your native language? ______________________________

7. What language(s) other than English do you speak? (specify)

____

8. Which of the following inservice courses for teaching LEP students have you taken? Circle as many as are applicable.

Teaching Bilingual Curriculum Content	1
Teaching Basic Skills in the Home Language	2
Methods of Teaching Spanish S	3
Methods of Teaching ESOL	4
Curriculum Content in English Using ESOL Techniques..	5
Other (specify): ______________________________	6
______________________________	7

Auth: MIS; Exp. Date: June 30, 1986

DADE COUNTY PUBLIC SCHOOLS
OFFICE OF EDUCATIONAL ACCOUNTABILITY
BCC PILOT PROJECT EVALUATION
FIRST GRADE STUDENT SUMMARY INFORMATION

School ______________________ Teacher ______________________ BCC ________ No-BCC ________

The purpose of this form is to obtain the following information on BCC Pilot Project students: current ESOL level, number of absences, and any special referrals that have been made. We are also requesting that you rate the students on their overall achievement in the content areas.

Please use the number that best describes the student's achievement in each subject, in relation to the rest of the class, at the present time.

1	2	3	4	5
poor	fair	average	good	excellent

Student Name	End-of-Year ESOL Level	Number of Absences During 1985-86	Has this student been referred for possible placement in Exceptional Student Education?		Math	Science	Social Studies	Health/ Safety
			Yes	No				

Auth: MIS; Exp. Date: June 30, 1986

OEA:ln 5/6/87
BCC STUDENT SUMMARY/FIRST GRADE: SRVEY2

DADE COUNTY PUBLIC SCHOOLS
Office of Educational Accountability
Bilingual Curriculum Content Pilot Project (BCC/No-BCC)
Second Grade Teacher Questionnaire

School Name: ______________________________ BCC ___ No-BCC ___

Number of Pilot Project Students ________ Total Class Size ________

Please check (/) if you are:

___ Regular classroom teacher

___ Chapter 1 classroom teacher

___ BCC Supplementary teacher

Class Composition as of May 1 including pilot project students:
Number of students in
ESOL Level 1 ________
Level 2 ________
Level 3 ________
Level 4 ________
Independent ________
Native English Speakers ________

A. Program Implementation

For each of the following statements on the BCC Pilot Project implementation, please indicate the extent of your agreement or disagreement. Using the scale below, select the appropriate number and write it in the space provided on the right.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

1. I understand the goals and objectives of the BCC Pilot Project .... ___
2. The orientation I received for this program was adequate. ___
3. I understand the criteria used to select students for this project .... ___
4. I have been provided adequate direction in the implementation of the project .... ___

B. School and Parental Support

For each of the following statements with regard to school and parental support for the Pilot Project, please indicate the extent of your agreement or disagreement. Using the scale below, select the appropriate number and write it in the space provided on the right.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

1. The school administration has a positive attitude toward the project .... ___

Auth: MIS; Exp. Date: June 30, 1986

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

2. Teachers in the school have a positive attitude toward the project .... ____

3. Parents have been adequately informed as to the BCC Pilot Project goals, objectives, and curriculum .... ____

4. Parents have a positive attitude toward their children learning content subjects bilingually until they learn English (BCC schools only)......................... ____

5. Parents have a positive attitude toward their children learning content subjects solely in English (No-BCC schools only) .... ____

C. Students' Attitudes and Performance

For the following statements on perceptions of students' attitudes and performance, please indicate the extent of your agreement or disagreement. Using the scale below, select the appropriate number and write it in the space provided on the right.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

1. The BCC Pilot Project students have a positive attitude toward learning content subjects........................ ____

2. The BCC Pilot Project students have improved their levels of performance in content subjects, between September and May .... ____

D. Methodologies for Teaching Content Subjects to Limited English Proficient (LEP) Students

For the following statements on methodologies for teaching content subjects to LEP students, please indicate the extent of your agreement or disagreement. Using the scale below, select the appropriate number and write it in the space provided on the right.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

1. LEP students should learn content subjects bilingually until they become proficient in English .... ____

2. Use of the home language in teaching content subjects should decrease as students' English proficiency increases .... ____

3. LEP students should be taught content subjects in English only. .... ____

4. LEP students should be taught content subjects in English and Spanish .... ____

5. The rate of cognitive development in LEP students is enhanced when they acquire parallel skills and concepts in the home language and English .... ____

6. Content instruction in the home language may be more appropriate for students in the intermediate grades than for those in the primary grades .... ____

7. Please list the techniques you have found effective in teaching content to LEP students: ______________________________

____

____

____

E. In order to improve our procedures for implementing the BCC Pilot Project next year, what recommendations would you make?

____

____

____

____

____

F. Instructional Approach

Listed below are several instructional strategies which can be used in teaching limited English proficient children. Using the scale below, indicate the extent to which you have used each strategy with PILOT PROJECT STUDENTS, by placing the appropriate numerical code in the space provided on the right. If you have used strategies not described below, please write these in (and provide appropriate codes) in the space provided at the end of each list. If an item does not apply, write in NA.

No Use	Little Use	Moderate Use	Extensive Use
1	2	3	4

Instructional strategies:

1. working with an aide under your supervision .... ____

2. dividing class into groups for instruction .... ____

3. grouping students by achievement criteria in math .... ____

No Use	Little Use	Moderate Use	Extensive Use
1	2	3	4

4. grouping students by achievement criteria in "Combined Instruction (science, social studies, health/safety) Language Experience/Oral Development .... ____

5. grouping students by English (L_2) proficiency .... ____

6. planning and coordinating content instruction with instruction provided by the following supplementary teachers in bilingual programs: BCC, Spanish-S and ESOL teachers .... ____

7. including English language development activities (oral and written) in content lessons .... ____

8. communicating with parents of Pilot Project students on the students' progress .... ____

9. other (specify): ____________________ .... ____

G. Training and Experience in Teaching Limited English Proficient Students

The following questions concern your training and experience in teaching limited English proficient students. Please circle all numbers that apply in each question, or fill in the information requested.

1. What degree(s) do you have ? (Circle all that apply)

bachelor's 1
master's 2
educational specialist 3
doctorate 4

2. How many years have you been a teacher? ____________

3. How many years have you taught LEP students? (Include years you have taught in a foreign country, and years you worked as an aide, if applicable.) ____________

4. In which areas do you hold Florida certification?

Elementary 1
Early Childhood 2
Junior High/Middle School 3
Secondary 4
Supervision 5
Administration 6
Bilingual Education... 7
ESOL 8
Languages, Spanish 9
English 10
Mathematics 11
Social Studies 12
Science 13
Other: (specify) ____________________ 14

5. If you hold teaching credentials or certification from another state, please describe: ____________________

6. What is your native language? ____________________

7. What language(s) other than English do you speak? (specify)

____

8. Which of the following inservice courses for teaching LEP students have you taken? Circle as many as are applicable.

Teaching Bilingual Curriculum Content	1
Teaching Basic Skills in the Home Language	2
Methods of Teaching Spanish S	3
Methods of Teaching ESOL	4
Curriculum Content in English Using ESOL Techniques..	5
Other (specify): ____________________	6
____________________	7

Auth: MIS; Exp. Date: June 30, 1986

DADE COUNTY PUBLIC SCHOOLS
OFFICE OF EDUCATIONAL ACCOUNTABILITY
BCC PILOT PROJECT EVALUATION
SECOND GRADE STUDENT SUMMARY INFORMATION

School ______________________ Teacher ______________________ BCC __________ No-BCC __________

The purpose of this form is to obtain the following information on BCC Pilot Project students: current ESOL level, number of absences, and any special referrals that have been made. We are also requesting that you rate the students on their overall achievement in the content areas.

Please use the number that best describes the student's achievement in each subject, in relation to the rest of the class, at the present time.

1	2	3	4	5
poor	fair	average	good	excellent

Student Name	End-of-Year ESOL Level	Number of Absences During 1985-86	Has this student been referred for possible placement in Exceptional Student Education?		Math	Science	Social Studies	Health/Safety
			Yes	No				

Auth: MIS; Exp. Date: June 30, 1986

OEA:ln 5/6/87
BCC STUDENT SUMMARY/FIRST GRADE: SRVEY2

DADE COUNTY PUBLIC SCHOOLS
BCC Pilot Project Implementation Check
1985-86

School: ____________ Date: ________ Classroom Teacher: ______________ Interviewer: ______________

Chapter 1: Yes ___ No ___
Comp. Ed: Yes ___ No ___
Self-Contained: (Only pilot project students in class) Yes ___ No ___
Class size: ___
No. of students in Project: ___
Grade: Firs ___ Sec ___
Room number ___

Instructional Time in Daily Minutes and Language of Instruction

Instructional Time in Daily Minutes

		ESOL Level	Mathematics				Combined Instruction ___ Chapter 1 ___				Language Arts/ ESOL		Spanish S	
		Current Level (If changed) Date: ________	Teacher: ________ Time of Day: ________				Teacher: ________ Time of Day: ________				Teacher: ________ Time of day: ________		Teacher: ________ Time of day: ________	
Student Name(s)	Sept.		Minutes daily	Times weekly	% of Home Language	Comments	Minutes daily	Times weekly	% of Home Language	Comments	Minutes	Comments	Minutes	Comments

[1] referral reason: ______________

[2] withdrawal reason: ______________

Auth:FM;Exp Date:April 30, 1986

OEA: 1/16/86/BCC Pilot Implementation/RW/EVALU

Dade County Public Schools
BCC Pilot Project
Interview - Materials Usage

School ______________________________ BCC ____ No-BCC ____

Grade 1 ________ 2 ________ Date: ____________________________

Teachers: Classroom ____________________ ESOL ______________

Spanish S ____________________ BCC Supplementary ______________

Interviewer ____________________________

Mathematics

1. What math program(s) are used? (Indicate materials in English by marking a letter "E" and materials in Spanish by marking a letter "S" in the parentheses.)

( ) Heath ____
( ) TMP ____
( ) Addison Wesley ________________________________
( ) SCDC ____
( ) Other (specify) ________________________________
____

Combined Instruction

2. What curriculum guides or programs are used for teaching content areas? (Put an "E" if used for teaching in English and an "S" if used for teaching in Spanish.)

	Science	Social Studies	Health/ Safety
D.C. Content Area Units of Study	( ) ________	( ) ________	( ) ________
D.C. Balanced Curriculum Obj.	( ) ________	( ) ________	( ) ________
SCDC	( ) ________	( ) ________	( ) ________
Other (specify)	( ) ________	( ) ________	( ) ________

ESOL

3. What instructional materials are used (Series and Edition)?

Peabody Language Development ______________________________

SWRL ______________________________

Michigan Oral Language Program ______________________________

MacMillan ______________________________

MLR ______________________________

Other (specify) ______________________________

____

Spanish-S

4. What instructional materials are used (Series and Edition)?

SCDC ______________________________

____

Other (specify) ______________________________

____

Dade County Public Schools - BCC Pilot Project Observation Form

School: BCC ______ No-BCC ______ Observer ______ Objective: ______

Date ______ No. of students ______ Content Subject: ______

Time Observed: Start ______ End ______ Total ______

The purpose of this form is to obtain a sample of student and teacher behaviors, and the language in which they occur, during Content Area Instruction. It is filled out by OEA staff. Individual schools and teachers will not be identified.

INSTRUCTION		
Teacher Behaviors	English	Spanish
1. Setting Goals		
2. Information/lecturing/presenting lesson content		
3. Giving Directions/Assigning tasks		
4. Asking Questions		
___facts, rules, information		
___comparisons, inferences		
___opinions, values		
5. Repeating/Modeling Language/ Reinforcing		
6. Praising/Extending/Encouraging		
7. Explaining/Clarifying/Correcting		
8. Criticizing/disciplining		
Student Behaviors		
9. Answering 'fact' questions		
10. Answering comparisons inferences		
11. Answering opinion, value questions		
12. Initiating talk		
13. Asking directed questions		
14. Repeating		
15. Responding with physical activity		
16. Silence, Confusion, Transition		

GUIDED PRACTICE

Number of groups ____ Size of groups ___

Materials ______

Language ______

Type of Activity/Objective Emphasized ______

Total Time ______

INDEPENDENT PRACTICE

Number of groups ____ Size of groups ___

Materials ______

Language ______

Type of Activity/Objective Emphasized ______

Total Time ______

OEA: 4/19/85
ML/CHART BCC Observation Chart

Auth:FM;Exp.Date:June 30, 1986

Dade County Public Schools
BCC Pilot Project - Second Grade
OBSERVATION #2 (IMPLEMENTATION CHECK)

Date _____________ School _______________________

Observer _________________

1. Is this student receiving BCC?

	Math		Combined		
	Y	N	Y	N	Comments
__________________	_	_	_	_	__________________
__________________	_	_	_	_	__________________
__________________	_	_	_	_	__________________
__________________	_	_	_	_	__________________
__________________	_	_	_	_	__________________
__________________	_	_	_	_	__________________

2. In what month(s) was the student's ESOL level changed?

	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
______________________	_	_	_	_	_	_	_	_	_	_
______________________	_	_	_	_	_	_	_	_	_	_
______________________	_	_	_	_	_	_	_	_	_	_
______________________	_	_	_	_	_	_	_	_	_	_
______________________	_	_	_	_	_	_	_	_	_	_

APPENDIX B

Pilot Project Guidelines

OFFICE OF EDUCATIONAL ACCOUNTABILITY

RT - 2037
September 4, 1985

MEMORANDUM

TO: BCC Pilot Project Principals

FROM: Joseph Fernandez, Associate Superintendent
Bureau of School Operations

Paul W. Bell, Associate Superintendent
Bureau of Education

Ray Turner, Assistant Superintendent
Office of Educational Accountability

SUBJECT: PLANNING FOR IMPLEMENTATION OF THE BCC PILOT PROJECT FOR 1985-86

As you know, we are conducting a three-year pilot program to evaluate two alternative strategies for teaching limited English proficient students curriculum content. This program, known as the BCC Pilot Project, involves twelve elementary schools. In the six schools designated as "BCC Schools", content subjects are taught bilingually; in the six schools designated "No-BCC Schools", content subjects are taught in English. In 1983-84, students participating in the study were ESOL Levels I and II in self-contained kingergarten classes. There was an even distribution of monolingual and bilingual teachers in both types of programs. The BCC Pilot Project began in February, 1984. Follow-up of these students' progress took place in 1984-85, and is expected to continue through June, 1986. The project was repeated with a new group of kindergarten students in the 1984-85 school year.

In order to plan for the implementation of the project for 1985-86, we are requesting your assistance. The evaluation plan calls for follow-up evaluation of both groups of students under instructional conditions similar to those used in the first year of the project, e.g., BCC or No-BCC "track", instructional time guidelines, class size, etc. The scheduling of students and teachers for the proposed BCC plan for 1985-86 is difficult but critical to maintaining project continuity, and to help ensure its success. We are therefore requesting that you begin planning and implementing the follow-up pilot classes for this year, using the format proposed (Attachment A), and the guidelines set forth in the "Summary of Conditions and Activities of BCC/No-BCC Pilot Project, 1985-86", August 30, 1985 (Attachment B).

By September 11, 1985, a member of the OEA staff will set up an appointment with you to discuss any problems you foresee in scheduling and organizing for 1985-86, and to gather the names of the project teachers you identify. Further orientation of guidelines will be provided by Bilingual/Foreign Language Education personnel, as needed. Guidance with regard to project evaluation will be provided by OEA. If you have any questions concerning the evaluation, please call Dr. Sylvia Rothfarb, 376-1506.

RT - 2037
September 4, 1985

MEMORANDUM

The assistance you provide will greatly facilitate the follow-up evaluation of BCC pilot project students. Your cooperation is very much appreciated.

RT:SR:ml

Attachments

cc:	Area Superintendents	Mr. Richard O. White
	Area Directors	Mr. Ralph F. Robinett
	Mrs. Angeline Welty	Mrs. Mercedes Toural

ATTACHMENT A

BCC Pilot Program Plan, 1985-86

Pilot project participants. Names and identification numbers of all students who had participated in the project through June, 1985, have been forwarded by OEA to each school. An update of these rosters will be collected by OEA staff during the first two weeks of September.

Continuity of BCC or No-BCC status. ESOL levels for those pilot project students who were not tested in the Spring of 1985 should be updated as soon as possible, following normal district procedures. The teacher may administer either of the two district-recommended tests: the Dade County Aural Comprehension Test, or the Oral Language Proficiency Scale. After ESOL levels have been determined for all project students, Level I - IV students in BCC schools still in need of bilingually-taught curriculum content should continue to receive this instruction. Level I - IV students in No-BCC schools, however, should continue to receive content instruction solely in English. For further implementation details, please consult Attachment B.

Class composition. Where possible, and where warranted by a sufficient number of students, it is recommended that follow-up pilot project classes be self-contained, and consist of (1) a second-grade class of students who participated in the project as kindergartners and first graders from February 1984 - June 1985; and/or (2) a first-grade class of students who participated as kindergartners in 1984-85. An alternate class composition is a first or second-grade class of continuing pilot project students and non-participating students. Non-pilot students may be limited English proficient or independent in English.

Class size. The recommended class size is approximately 18 - 24 students. Class size of Chapter I schools is 16 students.

Qualifications of teachers. As feasible, where there is more than one follow-up pilot project teacher in the same grade level, these teachers should be comparable in years of teaching experience and levels of training.

Follow-up testing: The schedule for testing of follow-up students will be arranged cooperatively between OEA staff and each pilot school. Pretests will be administered during September 17 - 20, and September 30 - October 4, 1985; posttests will be administered in the Spring of 1986. Where possible, testing will be conducted during BCC or Content-Taught-In-English class periods. Schools will be notified of any additional data-collection activities.

ATTACHMENT B

Summary of Conditions and Activities of BCC/No-BCC Pilot Project - 1985-86

Purpose of the pilot project. The purpose of the BCC/No-BCC Pilot Project is to determine the impact of providing bilingual curriculum content versus not providing bilingual curriculum content to limited English proficient students, as reflected in their academic performance after they have achieved independence in English.

Duration of the pilot project. Program participants will be followed-up and evaluated for a total of three years, that is, 1983-84 through 1985-86 for cohort I students and 1984-85 through 1986-87 for cohort II students.

Selection of pilot project sites and participants. During 1985-86, the pilot project participants will be first and second grade students who participated in the pilot project during 1984-85. The participating schools are as follows:

With BCC	Without BCC
Citrus Grove	Banyan
Coral Park	Dupuis
Coral Terrace	Fairlawn
Royal Palm	Greenglade
Shenandoah	Kinloch Park
Mae Walters	South Hialeah

Responsibility for the identification of participants lies with the Office of Educational Accountability.

Exclusion from participation in pilot project and/or in specific services. In all project schools, a child whose parent(s) or guardian has requested that the child not participate in Spanish-S will be excluded from participation in the pilot project and re-assigned to another, non-project teacher. In project schools providing BCC, a child whose parent(s) or guardian has requested that the child not participate in BCC will be excluded from participation in the pilot project and re-assigned to another, non-project teacher. Project participants will receive special instrucion in ESOL and other bilingual components only up to the time they would normally be exited from that component. Monitoring the implementation of these conditions will be the responsibility of the Division of Elementary and Secondary Instruction.

Languages employed in the instructional program. In the schools providing no bilingual curriculum content instruction, English will be the sole language of instruction, with the exception of delivery of the program of Spanish for Spanish Speakers. In schools providing bilingual curriculum content instruction, Spanish will be used during the time allocated for Spanish-S, and for BCC as appropriate according to ESOL level and need for such instruction. English will be the language of instruction for the rest of the school day. Monitoring implementation of these conditions will be the responsibility of the Division of Elementary and Secondary Instruction.

Recommended Time for Instruction

FIRST AND SECOND GRADE

BCC Schools		No-BCC Schools	
Language Arts/ESOL		Language Arts/ESOL	
Reading	60 minutes	Reading	60 minutes
Writing	30 minutes	Writing	30 minutes
Oral Language Development	30 minutes	Oral Language Development	30 minutes
Spanish-S	30 minutes	Spanish-S	30 minutes
Math	45 minutes	Math	45 minutes
ESOL Levels I and II 1/2 time in home language 1/2 time in English ESOL Levels III and IV Home language used if determined to be needed; time as appropriate		All instruction in English for all ESOL Levels I-IV	
Combined Instruction*	(No specific time requirement)	Combined Instruction*	(No specific time requirement)
ESOL Levels I and II 1/2 time in home language 1/2 time in English ESOL Levels III and IV Home language used if determined to be needed; time as appropriate.		All instruction in English for all ESOL Levels I-IV	

* For students eligible to receive Chapter I services, instruction in the content areas is to be replaced by Language Experience/Oral Language Development. For ESOL Levels I and II in schools with BCC, one-half of such instruction will be in the home language and one-half in English, and for ESOL Levels III and IV such instruction in language is provided in English. In schools with no BCC, English will be the medium of instruction regardless of ESOL level.

Grouping for BCC Instruction. In the event that pilot project participants in No-BCC schools are in self-contained classes with non-participating limited English proficient students, special attention should be exercised in scheduling for BCC. It is recommended that non-participating limited English proficient students in need of BCC instruction be provided such services on a pull-out basis by the specially allocated teacher in Program 6630. This practice will ensure that project participants in No-BCC schools will receive all instruction in English, as per project design. Monitoring these conditions will be the responsibility of the Division of Elementary and Secondary Instruction.

Exit criteria. A student may exit from the ESOL program when through objective evaluation he/she is determined to be independent in English. A student may exit from the Bilingual Curriculum Content program when through objective evaluation he/she is determined to achieve in English as well as he/she does in the home language, or when the student's parent(s) or guardian requests in writing that the student be released from Bilingual Curriculum Content, while remaining in English for Speakers of Other Languages.

Assessment of pilot project participants. In order to ensure that students exiting the programs have reasonably comparable levels of English proficiency, exit criteria and instrumentation will be determined by the Office of Educational Accountability. To ensure that students remain in the two types of program delivery for comparable lengths of time, there will be no change of students' ESOL designation until the end of a semester. Monitoring implementation of these conditions will be the responsibility of the Division of Elementary and Secondary Instruction. Longitudinal achievement testing in the area of mathematics, and other content areas if appropriate, will be the responsibility of the Office of Educational Accountability.

Integrity and comparability of bilingual component delivery. In all project schools, the programs of ESOL and Spanish-S will be delivered following guidelines established for each program. In Spanish-S, the content and instructional materials will be those recommended for countywide use, and the Spanish-S program will not be utilized to introduce or reinforce the content areas (Math, Science, Social Studies, Health/Safety) unless such utilization is inherent and overt in the approved program of Spanish-S for first and second grade.

Instructional materials for all program participants will be comparable and consistent in quality and quantity. Should it be necessary to change or supplement current basic instructional materials for any bilingual program component, such materials will be provided by the Division of Elementary and Secondary Instruction at no cost to the school. Monitoring implementation of these conditions will be the responsibility of the Division of Elementary and Secondary Instruction.

Grading of program participants. Guidelines for reflecting student progress for all participants will be consistent with provisions for students of limited English proficiency as set forth in the Pupil Progression Plan, with the exception of grades for Math and "Combined Instruction". Comment No. 1, "Receiving bilingual instruction in this area," will not be used for participants in schools not providing BCC; all other guidelines are applicable. For students receiving Chapter I services, grading should be in accordance with Chapter I grading guidelines. Monitoring the implementation of these conditions will be the responsibility of the Division of Elementary and Secondary Instruction.

Allocation of supplementary units under Programs 6600, 6610, 6630. While for the county as a whole the allocation of personnel to provide Basic Skills in the Home Language (Home Language Arts, e.g., Spanish-S, and Bilingual Curriculum Content) is based on a formula of 1 teacher to 150 students, for purposes of this pilot project the supplementary teachers will be allocated separately for the two dimensions of Basic Skills in the Home Language. Allocation of supplementary teacher units for project participants will be based on the following formula modifications:

Participants in all project schools will be assured allocation for Spanish-S (Home Language Arts) instruction based on a teacher - pupil ratio 1 teacher for each 200 students.

Participants in project schools providing BCC instruction will be assured allocations for BCC instruction based on a teacher-pupil ratio of 1 teacher for each 200 students.

Participants in all project schools will be assured allocations for ESOL instruction based on a teacher-pupil ratio of 1 teacher for 100 students.

Monitoring the implementation of these conditions will be the responsibility of the Division of Elementary and Secondary Instruction.

Utilization of supplementary and regular personnel for program delivery. Whenever feasible, instruction for program participants will be carried out within the students' regular classroom. Recommended program delivery is as follows:

ESOL instruction. For ESOL program delivery, the specially allocated ESOL teacher will go into the participant's classroom for one hour daily during the Language Arts block. The ESOL teacher will be responsible for delivering the oral language development portion of ESOL. The regular classroom teacher is responsible for delivering the reading and writing portions of the ESOL program. A basic pattern for ESOL program delivery provides for the special ESOL teacher to deliver oral language development to one half of the group for one half hour, after which he/she provides such instruction to the other half of the group for the second half hour. Such instruction may occur within the students' regular classroom or may occur in a nearby room. The remaining portions of the ESOL program are provided by the regular classroom teacher.

Spanish-S (Home Language Arts) instruction. Instruction in Spanish-s will be provided within the students' regular classroom for 30 minutes daily or 150 minutes weekly. Such instruction is provided by a teacher specially allocated under Program 6610 or Program 6630.

Instruction in the content areas. In project schools not providing BCC, all instruction in Math and in "Combined instruction" (or Chapter I alternative) will be delivered in English by the regular classroom teacher in his/her own classroom. In project schools providing BCC, a special teacher allocated under Program 6630 or 6610 will go into the students' classroom for one half hour daily or 150 minutes weekly to provide instruction in Math and in "Combined Instruction" (or Chapter I alternative) in Spanish.

A concerted effort will be made in preparing individual schedules to allow teachers serving the same students to have common planning time.

Monitoring the implementation of these conditions will be the responsibility of the Division of Elementary and Secondary Instruction.

Qualifications of personnel in pilot project schools. A concerted effort will be made to select teachers of comparable quality as evidenced by years of experience and levels of training. Responsibility for securing such comparability lies with the Office of Educational Accountability.

Consistency of class size. A concerted effort will be made to maintain consistency of class size (teacher-pupil ratio) across both types of program delivery (BCC and No-BCC pilot project schools). Responsibility for securing such consistency lies with the Office of Educational Accountability.

Data collection. Collection and maintenance of data required of participating teachers will be governed by established procedures and will be consistent with contractual obligations. Responsibility for monitoring data collection lies with the Office of Educational Accountability.

Assurances. No results will be reported in a manner that identifies a particular school, classroom, or student. Responsibility for monitoring this condition lies with the Office of Educational Accountability.

Orientation of Participating Principals. Principals and/or school personnel in need of orientation and/or clarification of pilot project guidelines should contact the area director responsible for bilingual programs.

APPENDIX C

Tables

Table 1

Summary of Results of Analysis of Covariance Comparing Spring '86 Mean Scores of BCC and No-BCC Groups on CTBS, Riverside and DCCAT Tests (Cohort I, Second Grade)

Achievement Test	Difference	Probability Level
CTBS		
Mathematics		
English	Not significant	.60
Spanish	Not significant	.61
Social Studies		
English	Not significant	.55
Science		
English	Not significant	.16
Language		
English	Not significant	.70
Spanish	Not significant	.58
Riverside		
Social Studies		
Spanish	Not significant	.63
Science		
Spanish	Not significant	.62
DCCAT		
Mathematics		
English	Not significant	.80
Spanish	Not significant	.19
Social Studies		
English	Not significant	.55
Spanish	Not significant	.52
Science		
English	Not significant	.84
Spanish	Not significant	.19

Table 2

Summary of Results of Analysis of Covariance Comparing Spring '86 Mean Scores of BCC and No-BCC Groups on TOBE and DCCAT Tests (Cohort II, First Grade)

Achievement Test	Difference	Probability Level
TOBE		
Mathematics		
English	Not significant	.18
Spanish	Not significant	.89
Social Studies		
English	Not significant	.17
Spanish	Difference favoring BCC group	.005
Science		
English	Not significant	.99
Spanish	Not significant	.61
Language		
English	Difference favoring No-BCC group	.02
Spanish	Not significant	.98
DCCAT		
Mathematics		
English	Not significant	.12
Spanish	Not significant	.15
Social Studies		
English	Not significant	.32
Spanish	Not significant	.11
Science		
English	Not significant	.62
Spanish	Not significant	.86

Note: After controlling for multiple ANCOVAS, none of the tests showed a significant difference between BCC and No-BCC schools.

Table 3

Analysis of Covariance Comparing Spring '86 Mean Scores of BCC and No-BCC Groups on CTBS and DCATT Tests, English Versions
(Cohort I, Second Grade)

	BCC			No-BCC				
Achievement Test	n	Mean	Adjusted Mean	n	Mean	Adjusted Mean	F	Probability Level
CTBS								
Mathematics	37	17.35	17.18	36	15.94	16.12	0.74	.60
Social Studies	41	16.46	16.33	45	15.64	15.77	0.38	.55
Science	34	18.26	17.81	38	15.84	16.25	1.99	.16
Language	39	23.90	24.07	39	24.79	24.62	0.16	.70
DCCAT Tests								
Mathematics	38	14.92	14.92	39	15.05	14.02	0.06	.80
Social Studies	37	14.97	14.97	36	17.30	17.30	0.36	.55
Science	34	17.09	17.13	36	15.22	14.19	0.03	.84

Table 4

Analysis of Covariance Comparing Spring '86 Mean Scores of BCC and No-BCC Groups on CTBS, Riverside and DCATT Tests, Spanish Versions (Cohort I, Second Grade)

Achievement Test	BCC n	BCC Mean	BCC Adjusted Mean	No-BCC n	No-BCC Mean	No-BCC Adjusted Mean	F	Probability Level
CTBS								
Mathematics	35	16.88	16.74	33	15.94	16.09	0.28	.61
Language	38	21.47	21.88	39	21.41	21.01	0.68	.58
Riverside								
Social Studies	39	18.72	18.76	40	19.72	19.68	0.84	.63
Science	35	21.34	20.71	40	20.82	21.38	0.80	.62
DCCAT Tests								
Mathematics	40	14.18	13.98	39	14.41	14.61	1.72	.19
Social Studies	40	14.40	14.25	40	13.72	13.88	0.52	.52
Science	41	15.83	15.84	34	16.56	16.55	1.73	.19

Note: Spanish versions of CTBS social studies and science tests are not available.

Table 5

Analysis of Covariance Comparing Spring '86 Mean Scores of BCC and No-BCC Groups on TOBE and DCATT Tests, English Versions (Cohort II, First Grade)

	BCC			No-BCC				
Achievement Test	n	Mean	Adjusted Mean	n	Mean	Adjusted Mean	F	Probability Level
TOBE								
Mathematics	48	19.80	19.95	43	19.14	19.07	1.84	.18
Social Studies	53	17.92	18.09	45	19.02	18.83	1.91	.17
Science	43	20.05	20.16	37	20.30	20.16	0.00	.99
Language	63	19.81	19.87	48	21.21	21.13	5.88	.02
DCCAT Tests								
Mathematics	58	15.72	15.78	46	15.30	15.23	2.34	.12
Social Studies	58	15.45	15.54	46	15.43	15.31	1.02	.32
Science	58	17.00	17.24	46	17.22	16.91	0.81	.62

Note: After controlling for multiple ANCOVAS, none of the tests showed a significant difference between BCC and No-BCC schools.

Table 6

Analysis of Covariance Comparing Spring '86 Mean Scores of BCC and No-BCC Groups on TOBE and DCATT Tests, Spanish Versions (Cohort II, First Grade)

Achievement Test	BCC n	BCC Mean	BCC Adjusted Mean	No-BCC n	No-BCC Mean	No-BCC Adjusted Mean	F	Probability Level
TOBE								
Mathematics	52	17.96	17.78	49	17.69	17.88	0.01	.89
Social Studies	57	17.67	17.80	49	16.37	16.21	8.30	.005
Science	59	20.27	20.39	46	20.26	20.11	0.27	.61
Language	59	19.98	20.15	48	20.35	20.14	0.00	.98
DCCAT Tests								
Mathematics	67	16.03	15.94	44	16.45	16.59	2.09	.15
Social Studies	70	14.93	15.02	49	15.65	15.53	2.59	.11
Science	69	16.46	16.51	48	16.54	16.47	0.02	.86

Note: After controlling for multiple ANCOVAS, none of the tests showed a significant difference between BCC and No-BCC schools.

Table 7

Repeated Measures ANOVA Comparing Spring Mean Scores by Level of English Proficiency: Years in ESOL Cohorts I and II

Achievement Test	Years in ESOL[a] 1 n	1 M	2 n	2 M	3 n	3 M	F value	Probability Level
Cohort I								
CTBS in English								
Mathematics	26	17.00	35	16.14	45	14.19	7.01	.001
Science	24	18.08	32	15.45	42	13.28	16.38	.0001
Social Studies	27	16.65	32	15.55	45	12.77	13.90	.001

Achievement Test	Years in ESOL[b] 1 n	1 M	2 n	2 M	3[c] n	3[c] M	F value	Probability Level
Cohort II								
TOBE in English								
Mathematics	18	19.69	76	15.82			12.25	.0001
Science	17	21.35	78	17.91			8.24	.005
Social Studies	19	19.76	95	16.08			11.21	.001

Note: Mean scores for both cohorts are based on BCC and No-BCC students' scores combined. The scores used were gathered in spring 1985-86.

[a] Cohort I students in 1985-86 could have had 1, 2 or 3 years of ESOL instruction.

[b] Cohort II students in 1985-86 could have had 1 or 2 years of ESOL instruction.

[c] Many Cohort II students with two years of ESOL will receive a third year of ESOL instruction.

Table 8

Repeated Measures ANOVA Comparing
Spring Mean Scores by Years of BCC Instruction
Cohorts I and II

Achievement Test	Years of BCC Instruction 1 n	1 M	2[e] n	2[e] M	F value	Probability Level
Cohort I						
CTBS[a]						
Mathematics[b]	29	17.03	21	13.83	9.89	.003
Science[c]	24	16.44	24	14.29	3.03	.089
Social Studies[c]	23	15.54	25	14.20	1.65	.20
Cohort II						
TOBE[d]						
Mathematics[b]	43	16.95	8	14.25	4.61	.037
Science[c]	47	19.21	9	14.55	14.85	.0001
Social Studies[c]	55	17.01	13	14.00	8.10	.006[f]

[a] CTBS 1985-86 spring scores in English for Cohort I.

[b] Years of BCC instruction in mathematics was used in calculating differences on mathematics test as a function of years of instruction.

[c] Years of BCC instruction in combined instruction was used in calculating differences on science and social studies tests as a function of years of instruction.

[d] TOBE 1985-86 spring scores in English for Cohort II.

[e] One student had three years of BCC instruction in mathematics and his/her score was included in the group with two years on BCC instruction in mathematics.

[f] A significant interaction was found on this test which renders the effect of years of instruction uninterpretable.

Table 9

Amount of Time and Language of Instruction in Mathematics and Combined Instruction for Cohort I (Second Grade)

Strategy	Average Daily Time (Minutes)	Average Weekly Time (Hours)	Estimated % of Instruction Time in Spanish
		MATHEMATICS	
BCC	52.0	4.3	0%
No-BCC	49.0	4.1	0%
		COMBINED INSTRUCTION	
BCC	45.5	4.0	0%
No-BCC	43.0	3.3	0%

Note: n = 126; 62 BCC and 64 No-BCC students. (These numbers include students in the second grade who later withdrew, or were retained or referred.)

Source: Implementation Check

Table 10

Second Grade (Cohort I) Teachers' Perceptions of BCC Pilot Project

		Rating Scale					
Items	No Response	Strongly Disagree 1	Disagree 2	Uncertain 3	Agree 4	Strongly Agree 5	Mean Rating
A. Program Implementation							
1. I understand the goals and objectives of the BCC Pilot Project.							
BCC teachers	2	2	1	4	9	1	3.4
No BCC teachers		2	1	6	12	1	3.4
2. The orientation I received for this program was adequate.							
BCC teachers	2	4	3	4	6		2.7
No BCC teachers	1	5	5	3	7	1	2.7
3. I understand the criteria used to select students for this project.							
BCC teachers	2	4	3	5	5		2.6
No BCC teachers		4	5	4	8	1	2.9
4. I have been provided adequate direction in the implementation of the project.							
BCC teachers	2	2	5	4	6		2.8
No BCC teachers		4	6	6	5	1	2.7
B. School and Parental Support							
1. The school administration has a positive attitude toward the project.							
BCC teachers	3			9	3	4	3.7
No BCC teachers				7	8	7	4.0
2. Teachers in the school have a positive attitude toward the project.							
BCC teachers	3		1	11	3	1	3.3
No BCC teachers				11	5	6	3.8

Table 10 (cont'd)

Items	No Response	Rating Scale Strongly Disagree 1	Disagree 2	Uncertain 3	Agree 4	Strongly Agree 5	Mean Rating
3. Parents have been adequately informed as to the BCC Pilot Project goals, objectives, and curriculum.							
BCC teachers	4	1	1	9	2	2	3.2
No BCC teachers				14	7	1	3.4
4. Parents have a positive attitude toward their children learning content subjects bilingually until they learn English (BCC schools only).							
BCC teachers	4			9	3	3	3.6
No BCC teachers	1			10	5	6	3.8
5. Parents have a positive attitude toward their children learning content subjects solely in English (no-BCC schools only).							
BCC teachers	8	1	2	7		1	2.8
No BCC teachers	1		4	16		1	2.9
C. Students' Attitudes and Performance							
1. The BCC Pilot Project students have a positive attitude toward learning content subjects.							
BCC teachers	3	1		3	10	2	3.8
No BCC teachers	2		1	5	12	2	3.8
2. The BCC Pilot Project students have improved their levels of performance in content subjects, between September and May.							
BCC teachers	4			8	6	1	3.5
No BCC teachers	2		1	3	15	1	3.8
D. Methodologies for Teaching Content Subjects to Limited English Proficient (LEP) Students							
1. LEP students should learn content subjects bilingually until they become proficient in English.							
BCC teachers	1		1	3	7	7	4.1
No BCC teachers	1		2	4	13	2	3.7

Table 10 (cont'd)

Items	No Response	Strongly Disagree 1	Disagree 2	Uncertain 3	Agree 4	Strongly Agree 5	Mean Rating
2. Use of the home language in teaching content subjects should decrease as students' English proficiency increases.							
BCC teachers				2	6	11	4.5
No BCC teachers	1		1	1	13	6	4.1
3. LEP students should be taught content subjects in English only.							
BCC teachers		6	6	5	1	1	2.2
No BCC teachers	1	3	11	7			2.1
4. LEP students should be taught content subjects in English and Spanish.							
BCC teachers	1		3	4	7	4	3.7
No BCC teachers	1		1	8	11	1	3.6
5. The rate of cognitive development in LEP students is enhanced when they acquire parallel skills and concepts in the home language and English.							
BCC teachers				7	9	3	3.8
No BCC teachers	1		1	5	13	2	3.8
6. Content instruction in the home language may be more appropriate for students in the intermediate grades than for those in the primary grade.							
BCC teachers		4	1	9	3	2	2.9
No BCC teachers	1	1	10	5	4	1	2.7

Items	No Response	No Use 1	Little Use 2	Moderate Use 3	Extensive Use 4	Mean Rating
E. Instructional Approach						
1. Working with an aide under your supervision.						
BCC teachers	5	3	3	4	4	2.6
No BCC teachers	6	10	2	4		1.6

Table 10 (cont'd)

Items		No Response	No Use 1	Little Use 2	Moderate Use 3	Extensive Use 4	Mean Rating
2. Dividing class into groups for instruction							
	BCC teachers	2			5	12	3.7
	No BCC teachers	3			4	15	3.8
3. Grouping students by achievement criteria in math.							
	BCC teachers	2		4	2	11	3.4
	No BCC teachers	3			6	13	3.7
4. Grouping students by achievement criteria in "combined Instruction (science, social studies, health/safety Language Experience/ Oral Development).							
	BCC teachers	4	3	5	5	2	2.4
	No BCC teachers	3	4	6	6	3	2.4
5. Grouping students by English (L_2) proficiency.							
	BCC teachers	3	3	6	6	1	2.3
	No BCC teachers	3	5	2	6	6	2.7
6. Planning and coordinating content instruction provided by the following supplementary teachers in bilingual programs: BCC, Spanish-S and ESOL teachers.							
	BCC teachers	3	4	7	4	1	2.1
	No BCC teachers	4	4	4	3	7	2.7
7. Including English language development activities (oral and written) in content lessons.							
	BCC teachers	3		1	5	10	3.6
	No BCC teachers	2		1	6	13	3.6
8. Communicating with parents of Pilot Project students on the students' progress.							
	BCC teachers	3	2	3	6	5	2.9
	No BCC teachers	3	2	2	9	6	3.0

Note: n = 41; 19 BCC teachers and 22 No-BCC teachers

Source: End-of-year Teacher Questionnaire.

Table 11

Principals' Perceptions of BCC Pilot Project (1985-86)

		Rating Scale					
Items	No Response	Strongly Disagree 1	Disagree 2	Uncertain 3	Agree 4	Strongly Agree 5	Mean Rating
A. Program Implementation							
1. The BCC Pilot Project is operating in my school as stated in the guidelines, "Planning for Implementation of the BCC Pilot Project for 1985-86" (Memorandum of September 4, 1985).							
BCC Principals					3	2	4.4
No BCC Principals					2	1	4.3
2. I understand the goals and objectives of the BCC Pilot Project.							
BCC Principals					3	3	4.5
No BCC Principals					3		4.0
3. I understand the criteria used to select students for this project.							
BCC Principals				1	3	2	4.2
No BCC Principals					3		4.0
4. I have been provided adequate direction in the implementation of the project.							
BCC Principals				2	3	1	3.8
No BCC Principals					3		4.0
5. First and second grade Pilot Project limited English proficient (LEP) students have opportunities during the school day to interact with non-LEP students.							
BCC Principals					4	2	4.3
No BCC Principals					2	1	4.3

Table 11 (cont'd)

Items	No Response	Rating Scale					Mean Rating
		Strongly Disagree 1	Disagree 2	Uncertain 3	Agree 4	Strongly Agree 5	
B. School and Parental Support							
1. You have a positive attitude toward the project.							
BCC Principals			2	2	2		3.0
No BCC Principals	1				1	1	4.5
2. Your assistant principal has a positive attitude toward the project.							
BCC Principals			1	4	1		3.0
No BCC Principals	1				1	1	4.5
3. Teachers in the school who are not part of the project have a positive attitude toward the project.							
BCC Principals			1	5			2.8
No BCC Principals	1				2		4.0
4. First and second grade teachers in the BCC Pilot Project have a positive attitude toward the project.							
BCC Principals			3	1	2		2.8
No BCC Principals	1				2		4.0
5. Parents have been adequately informed as to the BCC Pilot Project goals, objectives, and curriculum.							
BCC Principals			1	1	4		3.5
No BCC Principals	1				2		4.0
6. Parents have a positive attitude toward their children learning content subjects bilingually until they learn English (BCC schools only).							
BCC Principals				6			3.0
No BCC Principals	2		1				2.0
7. Parents have a positive attitude toward their children learning content subjects solely in English (No-BCC schools only)							
BCC Principals	1			5			3.0
No BCC Principals	1				1	1	4.5

Table 11 (cont'd)

		Rating Scale					
Items	No Response	Strongly Disagree 1	Disagree 2	Uncertain 3	Agree 4	Strongly Agree 5	Mean Rating
C. Students' Attitudes							
1. The BCC Pilot Project students have a positive attitude toward learning curriculum content.							
BCC Principals				2	4		3.7
No BCC Principals	1				2		4.0
2. The BCC Pilot Project students have a positive attitude toward school.							
BCC Principals				1	5		3.8
No BCC Principals	1				1	1	4.5
D. Methodologies for Teaching Content Subjects to LEP Students							
1. LEP students should learn content subjects bilingually until they become proficient in English.							
BCC Principals			2	2	1	1	3.2
No BCC Principals			1	1		1	3.3
2. Use of the home language in teaching content subjects should decrease as students' English proficiency increases.							
BCC Principals			1		1	4	4.3
No BCC Principals					2	1	4.3
3. LEP students should be taught content subjects in English only.							
BCC Principals		1	1	2	2		2.8
No BCC Principals			2		1		2.7
4. LEP students should be taught content subjects in both English and the home language							
BCC Principals			1	1	2	2	3.8
No BCC Principals			1		1	1	3.7

Table 11 (cont'd)

		Rating Scale					
Items	No Response	Strongly Disagree 1	Disagree 2	Uncertain 3	Agree 4	Strongly Agree 5	Mean Rating
5. The rate of cognitive development in LEP students is enhanced when they acquire parallel skills and concepts in the home language and English.							
BCC Principals			1	3	1	1	3.3
No BCC Principals				2	1		3.3
6. Content instruction in the home language may be more appropriate for students in the intermediate grades than for those in the primary grades.							
BCC Principals			2	3		1	3.0
No BCC Principals			1	1	1		3.0

Note: n = 9; 6 BCC principals and 3 No-BCC principals.

Table 12

Summary of Second Grade (Cohort I) Teachers' Perceptions of BCC Pilot Project
(February 1984 - June 1986)

Items	Mean Ratings			
	1983-84	1984-85	1985-86	Overall Mean
A. Program Implementation				
1. I understand the goals and objectives of the BCC Pilot Project.				
BCC teachers	3.5	3.2	3.4	3.4
No BCC teachers	3.8	2.5	3.4	3.2
BCC Supplementary teachers	5.0			
2. The orientation I received for this program was adequate.				
BCC teachers	2.3	1.8	2.7	2.3
No BCC teachers	2.8	1.8	2.7	2.4
BCC Supplementary teachers	5.0			
3. I understand the criteria used to select students for this project.				
BCC teachers	3.5	2.3	2.6	2.8
No BCC teachers	4.0	2.4	2.9	3.1
BCC Supplementary teachers	4.5			
4. I have been provided adequate direction in the implementation of the project.				
BCC teachers	2.5	2.1	2.8	2.5
No BCC teachers	3.0	1.5	2.7	2.4
BCC Supplementary teachers	5.0			
B. School and Parental Support				
1. The school administration has a positive attitude toward the project.				
BCC teachers	2.8	3.4	3.7	3.3
No BCC teachers	3.8	3.8	4.0	3.9
BCC Supplementary teachers	5.0			
2. Teachers in the school have a positive attitude toward the project.				
BCC teachers	2.8	3.1	3.3	3.1
No BCC teachers	3.5	2.7	3.8	3.3
BCC Supplementary teachers	5.0			

Table 12 (cont'd)

Items	Mean Ratings			
	1983-84	1984-85	1985-86	Overall Mean
3. Parents have been adequately informed as to the BCC Pilot Project goals, objectives and curriculum.				
BCC teachers	N/A	2.5	3.2	2.9
No BCC teachers		3.2	3.4	3.3
BCC Supplementary teachers				
4. Parents have a positive attitude toward their children learning content subjects bilingually until they learn English (BCC schools only).				
BCC teachers	N/A	3.7	3.6	3.7
No BCC teachers		3.3	3.8	3.6
BCC Supplementary teachers				
5. Parents have a positive attitude toward their children learning content subjects solely in English (No-BCC schools only).				
BCC teachers	N/A	3.5	2.8	3.2
No BCC teachers		3.4	2.9	3.2
BCC Supplementary teachers				
C. Students' Attitudes and Performance				
1. The BCC Pilot Project students have a positive attitude toward learning content subjects.				
BCC teachers	4.3	3.5	3.8	3.9
No BCC teachers	4.3	3.7	3.8	3.9
BCC Supplementary teachers	5.0			
2. The BCC Pilot Project students have improved their levels of performance in content subjects, between September and May.				
BCC teachers	4.0	3.3	3.5	3.6
No BCC teachers	3.8	3.5	3.8	3.7
BCC Supplementary teachers	5.0			

Table 12 (cont'd)

Items	Mean Ratings			
	1983-84	1984-85	1985-86	Overall Mean
D. Methodologies for Teaching Content Subjects to Limited English Proficient (LEP) Students				
1. LEP students should learn content subjects bilingually until they become proficient in English.				
BCC teachers	N/A	3.4	4.1	3.8
No BCC teachers		3.0	3.7	3.4
BCC Supplementary teachers				
2. Use of the home language in teaching content subjects should decrease as students' English proficiency increases.				
BCC teachers	4.2	4.3	4.5	4.3
No BCC teachers	3.6	4.2	4.1	4.0
BCC Supplementary teachers	5.0			
3. LEP students should be taught content subjects in English only.				
BCC teachers	N/A	N/A	2.2	
No BCC teachers			2.1	
BCC Supplementary teachers				
4. LEP students should be taught content subjects in English and Spanish.				
BCC teachers	N/A	N/A	3.7	
No BCC teachers			3.6	
BCC Supplementary teachers				
5. The rate of cognitive development in LEP students is enhanced when they acquire parallel skills and concepts in the home language and English.				
BCC teachers	3.8	4.0	3.8	3.9
No BCC teachers	3.6	2.8	3.8	3.4
BCC Supplementary teachers	5.0			
6. Content instruction in the home language may be more appropriate for students in the intermediate grades than for those in the primary grades.				
BCC teachers	N/A	N/A	2.9	
No BCC teachers			2.7	
BCC Supplementary teachers				

Table 12 (cont'd)

	Mean Ratings			
Items	1983-84	1984-85	1985-86	Overall Mean
E. Instructional Approach				
1. Working with an aide under your supervision.				
BCC teachers	1.4	2.9	2.6	2.3
No BCC teachers	1.0	1.6	1.6	1.4
BCC Supplementary teachers	1.8			
2. Dividing class into groups for instruction.				
BCC teachers	2.8	3.8	3.7	3.4
No BCC teachers	1.0	3.8	3.8	2.9
BCC Supplementary teachers	3.6			
3. Grouping students by achievement criteria in math.				
BCC teachers	2.4	3.4	3.4	3.1
No BCC teachers	1.0	2.9	3.7	2.5
BCC Supplementary teachers	3.6			
4. Grouping students by achievement criteria in "Combined Instruction (science, social studies, health/safety Language Experience/ Oral Development).				
BCC teachers	N/A	1.8	2.4	2.1
No BCC teachers		2.5	2.4	2.5
BCC Supplementary teachers				
5. Grouping students by English (L_2) proficiency.				
BCC teachers	1.6	2.3	2.3	2.1
No BCC teachers	1.5	2.3	2.7	2.2
BCC Supplementary teachers	2.8			
6. Planning and coordinating content instruction with instruction provided by the following supplementary teachers in bilingual programs: BCC, Spanish-S and ESOL teachers.				
BCC teachers	N/A	N/A		2.1
No BCC teachers			2.7	
BCC Supplementary teachers				

Table 12 (cont'd)

Items	Mean Ratings 1983-84	1984-85	1985-86	Overall Mean
7. Including English language development activities (oral and written) in content lessons.				
BCC teachers	N/A	4.1	3.6	3.9
No BCC teachers		3.4	3.6	3.5
BCC Supplementary teachers				
8. Communicating with parents of Pilot Project students on the students' progress				
BCC teachers	3.2	3.3	2.9	3.1
No BCC teachers	3.5	3.0	3.0	3.2
BCC Supplementary teachers	3.4			

Source: Teacher Questionnaires; 1984, 1984-85, 1985-86.

Table 13

Summary of Principals' Perceptions of BCC Pilot Project
(February 1984 - June 1986)

	Mean Ratings			
Items	1983-84	1984-85	1985-86	Overall Mean
A. Program Implementation				
1. The BCC Pilot Project is operating in my school as stated in the guidelines.				
BCC principals	4.5	4.8	4.4	4.6
No BCC principals	4.6	4.0	4.3	4.3
2. I understand the goals and objectives of the BCC Pilot Project.				
BCC principals	N/A	4.4	4.5	4.5
No BCC principals		4.0	4.0	4.0
3. I understand the criteria used to select students for this project.				
BCC principals	3.6	4.2	4.2	4.0
No BCC principals	3.8	4.4	4.0	4.1
4. I have been provided adequate direction in the implementation of the project.				
BCC principals	3.0	3.8	3.8	3.5
No BCC principals	3.6	3.8	4.0	3.8
5. First and second grade Pilot Project limited English proficient (LEP) students have opportunities during the school day to interact with non-LEP students.				
BCC principals	Data not reported	Data not reported	4.3	
No BCC principals			4.3	
B. School and Parental Support				
1. You have a positive attitude toward the project.				
BCC principals	N/A	2.6	3.0	2.8
No BCC principals		3.4	4.5	4.0

Table 13 (cont'd)

	Mean Ratings			
Items	1983-84	1984-85	1985-86	Overall Mean
2. Your assistant principal has a positive attitude toward the project.				
BCC principals	N/A	2.8	3.0	2.9
No BCC principals		3.6	4.5	4.1
3. Teachers in the school who are not part of the project have a positive attitude toward the project.				
BCC principals	2.6	2.8	2.8	2.7
No BCC principals	3.0	2.8	4.0	3.3
4. Teachers in the BCC Pilot Project have a positive attitude toward the project.				
BCC principals	3.2	3.4	2.8	3.1
No BCC principals	2.8	3.0	4.0	3.3
5. Parents have been adequately informed as to the BCC Pilot Project goals, objectives, and curriculum.				
BCC principals	3.4	4.4	3.5	3.8
No BCC principals	3.0	3.4	4.0	3.5
6. Parents have a positive attitude toward their children learning content subjects bilingually until they learn English (BCC schools only)				
BCC principals	N/A	3.2	3.0	3.1
No BCC principals		3.3	2.0	2.7
7. Parents have a positive attitude toward their children learning content subjects solely in English (no-BCC schools only).				
BCC principals	N/A	3.7	3.0	3.4
No BCC principals		3.2	4.5	3.9
C. Students' Attitudes				
1. The BCC Pilot Project students have a positive attitude toward learning curriculum content.				
BCC principals	3.4	Data not reported	3.7	3.6
No BCC principals	4.0		4.0	4.0

Table 13 (cont'd)

Items		Mean Ratings		
	1983-84	1984-85	1985-86	Overall Mean
2. The BCC Pilot Project students have a positive attitude toward school.				
BCC principals	N/A	Data not reported	3.8	
No BCC principals			4.5	
D. Methodologies for Teaching Content Subjects to LEP Students				
1. LEP students should learn content subjects bilingually until they become proficient in English.				
BCC principals	N/A	2.8	3.2	3.0
No BCC principals		2.8	3.3	3.1
2. Use of the home language in teaching content subjects should decrease as students' English proficiency increases				
BCC principals	4.8	5.0	4.3	4.7
No BCC principals	4.6	4.7	4.3	4.5
3. LEP students should be taught content subjects in English only.				
BCC principals	N/A	N/A	2.8	
No BCC principals			2.7	
4. LEP students should be taught content subjects in both English and home language.				
BCC principals	N/A	N/A	3.8	
No BCC principals			3.7	
5. The rate of cognitive development in LEP students is enchanced when they acquire parallel skills and concepts in the home language and English.				
BCC principals	2.6	2.8	3.3	2.9
No BCC principals	3.4	3.5	3.3	3.4

Source: Principal Questionnaires; 1984, 1984-85, 1985-86

Table 14

Amount of Time and Language of Instruction in Mathematics and Combined Instruction for Cohort II (First Grade)

Strategy	Average Daily Time (Minutes)	Average Weekly Time (Hours)	Estimated % of Instruction Time in Spanish [a]
		MATHEMATICS	
BCC	48.3	4.0	52.0%
No-BCC	51.4	4.3	0.005%
		COMBINED INSTRUCTION	
BCC	39.1	3.2	42.1%
No-BCC	38.0	3.1	0.02% [b]

Note: n = 148; 86 BCC and 62 No-BCC students.

[a] Estimated % of instruction time in Spanish was computed for a reduced n, namely students "entitled", due to ESOL level, to bilingual instruction. n = 24: 24 BCC students

[b] One teacher in a No-BCC school reported the use of Spanish with three project students.

Source: Implementation Check

Table 15

First Grade (Cohort II) Teachers' Perceptions of BCC Pilot Project

Items	No Response	Rating Scale					Mean Rating
		Strongly Disagree 1	Disagree 2	Uncertain 3	Agree 4	Strongly Agree 5	
A. Program Implementation							
1. I understand the goals and objectives of the BCC Pilot Project.							
BCC teachers		2	1	3	10	5	3.8
No BCC teachers	4	6		7	5		2.6
2. The orientation I received for this program was adequate.							
BCC teachers		4	3	5	6	3	3.0
No BCC teachers	7	6	3	3	3		2.2
3. I understand the criteria used to select students for this project.							
BCC teachers		5	2	6	5	3	3.0
No BCC teachers	4	7	3	6	2		2.2
4. I have been provided adequate direction in the implementation of the project.							
BCC teachers		5	3	5	5	3	3.0
No BCC teachers	6	4	7	3	2		2.2
B. School and Parental Support							
1. The school administration has a positive attitude toward the project.							
BCC teachers	1	1		4	11	4	3.9
No BCC teachers	3	1	1	8	5	4	3.5
2. Teachers in the school have a positive attitude toward the project.							
BCC teachers	3	1	3	7	7	3	3.4
No BCC teachers	3	2	2	6	8	1	3.2

Table 15 (cont'd)

Items	No Response	Rating Scale Strongly Disagree 1	Disagree 2	Uncertain 3	Agree 4	Strongly Agree 5	Mean Rating
3. Parents have been adequately informed as to the BCC Pilot Project goals, objectives, and curriculum.							
BCC teachers	3		2	16	3		3.0
No BCC teachers	3	2		13	2	2	3.1
4. Parents have a positive attitude toward their children learning content subjects bilingually until they learn English (BCC schools only).							
BCC teachers			2	10	5	4	3.5
No BCC teachers	7	1		8	5	1	3.3
5. Parents have a positive attitude toward their children learning content subjects solely in English (No-BCC schools only).							
BCC teachers	3		2	14	2		3.0
No BCC teachers	3	1	1	11	5	1	3.2
C. Students' Attitudes and Performance							
1. The BCC Pilot Project students have a positive attitude toward learning content subjects........................							
BCC teachers	2		2		12	5	4.1
No BCC teachers	6	1		5	9	1	3.6
2. The BCC Pilot Project students have improved their levels of performance in content subjects, between September and May....................................							
BCC teachers	2		1	1	10	7	4.2
No BCC teachers	6	1		1	12	2	3.9
D. Methodologies for Teaching Content Subjects to Limited English Proficient (LEP) Students							
1. LEP students should learn content subjects bilingually until they become proficient in English.................							
BCC teachers		2	1	2	9	7	3.9
No BCC teachers	1	1	3	3	9	5	3.7

Table 15 (cont'd)

Items	No Response	Rating Scale Strongly Disagree 1	Disagree 2	Uncertain 3	Agree 4	Strongly Agree 5	Mean Rating
2. Use of the home language in teaching content subjects should decrease as students' English proficiency increases.							
BCC teachers	2		1	1	6	13	4.5
No BCC teachers	2			1	9	10	4.5
3. LEP students should be taught content subjects in English only.							
BCC teachers	1	4	12	3		2	2.2
No BCC teachers	1	3	7	6	5		2.6
4. LEP students should be taught content subjects in English and Spanish.							
BCC teachers		2		1	13	5	3.9
No BCC teachers	2	1		7	8	4	3.7
5. The rate of cognitive development in LEP students is enhanced when they acquire parallel skills and concepts in the home language and English.							
BCC teachers	1		1	4	11	5	4.1
No BCC teachers	2		1	4	11	4	3.9
6. Content instruction in the home language may be more appropriate for students in the intermediate grades than for those in the primary grades.							
BCC teachers	1	4	3	8	3	3	2.9
No BCC teachers	1	1	8	1	8	3	3.2

	No Response	No Use 1	Little Use 2	Moderate Use 3	Extensive Use 4	Mean Rating
E. Instructional Approach						
1. Working with an aide under your supervision.						
BCC teachers	2	9		6	3	2.3
No BCC teachers	5	8	2	4	3	2.1

Table 15 (cont'd)

Items	No Response	No Use 1	Little Use 2	Moderate Use 3	Extensive Use 4	Mean Rating
2. Dividing class into groups for instruction.						
BCC teachers			1	5	15	3.7
No BCC teachers	4	1	1	3	13	3.6
3. Grouping students by achievement criteria in math.						
BCC teachers		3	2	7	9	3.0
No BCC teachers	4	1		10	7	3.3
4. Grouping students by achievement criteria in "Combined Instruction (science, social studies, health/safety) Language Experience/Oral Development.						
BCC teachers		8	6	7		2.0
No BCC teachers	3	6	4	2	7	2.5
5. Grouping students by English (L_2) proficiency.						
BCC teachers		4	6	4	7	2.7
No BCC teachers	4	6	2	8	2	2.3
6. Planning and coordinating content instruction provided by the following supplementary teachers in bilingual programs: BCC, Spanish-S and ESOL teachers.						
BCC teachers		4		9	8	3.0
No BCC teachers	4	4	1	5	8	2.9
7. Including English language development activities (oral and written) in content lessons						
BCC teachers				7	14	3.7
No BCC teachers	4	1		3	14	3.7
8. Communicating with parents of Pilot Project students on the students' progress .						
BCC teachers	1		2	9	9	3.4
No BCC teachers	4	4	4	6	4	2.6

Note: n = 43; 21 BCC teachers and 22 No-BCC teachers

Source: End-of-year Teacher Questionnaire

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